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ABSTRACT

A study investigated relationships between two instructional dimensions and change in the literacy practices of adult literacy students: degree of authenticity of activities and texts in class and degree of teacher/student collaboration. Data on class activities and texts and degree of student influence on them were triangulated from teacher questionnaire, class observation, and group-student interview. Data on change in adult students' literacy practices were collected from adult literacy students by a questionnaire administered to students in their homes every 3 months for up to a year and analyzed using Hierarchical Linear Modeling. Questionnaire responses were placed on a common scale using Item Response Theory from which a change score was derived. Analysis results based on 157 students in 77 adult literacy classes revealed authenticity had a moderate effect on change in student literacy practices, shown as increased frequency of reading and writing and/or types of texts read and written. Analysis of literacy engagement and change scales revealed that the increases in types of texts involved reading and writing more texts at higher levels of discourse. Degree of collaboration had no effect on literacy practice. Qualitative analysis of student comments on the questionnaire showed they reported life changes--changes in employment, changes emanating from learning to read and write, and changes in living and family situations. (Contains 45 references.) (YLB)

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**"AFFECTING CHANGE IN LITERACY PRACTICES
OF ADULT LEARNERS:
IMPACT OF TWO DIMENSIONS OF INSTRUCTION"**

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TABLE OF CONTENTS

Executive Summary	i
Acknowledgements	iii
Chapter 1: The Study of Adult Literacy Practice	1
Theoretical Frame	2
Chapter 2: Related Literature	4
Family Literacy and Emergent Literacy Development	4
Theoretical Biases for Adult Literacy Instruction	5
Typology of Self-Reported Descriptions of Degrees of Collaboration and Authenticity in Adult Literacy Classes	8
Research Questions	9
Chapter 3: Participants	10
Recruitment	10
Criteria for Inclusion	10
Portraits of Participants	10
Summary	18
Chapter 4: Methodology	20
Design	20
Data Collection	20
Procedures	23
Chapter 5: Analysis	28
Class Data	28
Home Literacy Practices Questionnaire	32
Scaling Responses to the Questionnaire Items	32
Hierarchical Linear Modeling to Model Change	42
Chapter 6: Results	52
Final Model	52
Summary of Results	56
Chapter 7: Discussion	57
Limitations	57
Dimension of Student/Teacher Collaboration	58
Factors Related to Change in Literacy Practice	58
Changing the Cycle of Literacy Culture	61
Implications for Further Research	64

Chapter 8: Students' Perceptions of Life and Literacy Changes	65
Secondary Qualitative Analysis	65
Data Collection	66
Results	67
Discussion	76
References	81

TABLES

Table 1: Criteria for Classifying Classes Along the Authentic/ School-Only Dimension	29
Table 2: Criteria for Typing Classes Along the Collaborative/ Teacher-Directed Dimension	30
Table 3: Results of IRT Scaling of Engagement in Literacy Practices	38
Table 4: Results of IRT Scaling of Change in Level of Engagement In Literacy Practices	41
Table 5: Descriptive Statistics of Categorical Respondent-Level Variables	44
Table 6: Descriptive Statistics of Quantitative, Respondent-Level Variables	45
Table 7: Descriptive Statistics of Categorical Classroom-Level Variables	47
Table 8: Descriptive Statistics of Quantitative Classroom-Level Variables	47
Table 9: Relationship Between Authenticity and Collaboration For The Final Sample	48
Table 10: Parameter Estimates	53
Table 11: Estimated Variance Components of the Models Estimated Four Ways	54
Table 12: Percent Variation Explained of Models Estimated Four Ways	55
Table 13: Life Changes Related to Literacy Practice Changes by Adult Literacy Students; $N = 117$	68

FIGURES

Figure 1: The home literacy culture/school literacy success cycle.	5
Figure 2: Distribution of Literacy Practice Engagement scaled scores.	37
Figure 3: Distribution of Change in Literacy Practice Engagement scaled scores.	40
Figure 4: The home literacy culture/school literacy success cycle as affected by authentic adult literacy instruction.	63

EXECUTIVE SUMMARY

This study investigated the relationships between (a) two dimensions of adult literacy instruction and (b) change in the literacy practices of adult literacy students. The two instructional dimensions investigated were (a) degree of authenticity of the activities and texts employed in the literacy class and (b) degree of teacher/student collaboration around activities, texts, assessments, and program governance. The construct of authenticity for this study was defined as those literacy activities and purposes used by people in their lives, excluding those that are structured solely around learning to read and write in school settings.

The study was motivated by issues of intergenerational literacy and by research that documents that young children's success and failure in learning to read and write in school is related to the frequency of literacy events and types of texts read and written by their parents. It is assumed that increasing the frequencies and types of literacy practices of adult literacy students is an important outcome of adult instruction due to this intergenerational literacy factor.

Data on the two instructional dimensions of interest – authenticity and collaboration – was collected from 83 adult literacy classes in 22 states. Data on class activities and texts and on degree of student influence on these were triangulated from three sources: a teacher questionnaire; class observation; and group-student interview. Classes were given a score indicating the degree to which they reflected these two dimensions.

Data on change in adult students' literacy practices was collected from 173 adult literacy students with a detailed questionnaire that was administered to students individually in their homes every three months for up to a year, as long as they attended their literacy class. Students were asked if they engaged in individual literacy practices and if so were these practices new or engaged in more frequently since beginning the class.

Data were analyzed using Hierarchical Linear Modeling to model change. Due to problems with missing data, the results of the analysis were based on 157 students in 77 adult literacy classes. The questionnaire responses were placed on a common scale using Item Response Theory from which a change score was derived. Using this outcome variable, the effects of the two instructional dimensions on change were modeled, controlling for the following student-level variables: literacy level of the student on entry to the class; days students had attended the class; attendance pattern of student; ESOL status of student; gender; whether the student was in a class or had a one-on-one tutor. Class-level variables controlled for were the types of classes ESOL, ABE, and Family Literacy.

Results of the analysis revealed that authenticity of class literacy activities and texts had a moderate effect on change in student literacy practices, operationalized as increases in frequency of reading and writing and/or types of texts read and written. Analysis of the literacy engagement and change scales revealed that the increases in types of texts involved reading and writing more texts at higher levels of discourse, levels associated with higher levels of emergent literacy knowledge in previous studies. The degree of collaboration between teacher and students showed no effect on literacy practice change.

Student-level factors that also showed independent effects on change in literacy practice were (a) literacy level of student at entry to class; (b) number of days the student had been attending the class; and (c) non-ESOL status of student. Besides authenticity, the other classroom-level factor to show a significant effect on literacy practice change was ABE format.

A qualitative analysis was done using the spontaneous student comments on 173 home literacy practices questionnaires attributing changes in literacy practice. Results showed that students contextualized their reported literacy practice changes to life changes such as changes in employment, changes emanating from learning to read and write, changes in living situations, and family situations. These results demonstrated the socially-situated nature of literacy and literacy change.

The results of the quantitative analysis are taken to suggest ways that adult literacy instruction can help to change the cycle of intergenerational literacy success and failure. As such, the significance of the results go beyond the field of adult literacy alone. Nevertheless, the results of this study demonstrate that research can document instructional outcome in ways that reflect actualized literacy learning in sociocultural contexts.

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Finally, we thank the many data collectors who worked incredible hours to visit classes and students, construct data protocols, tape interviews, mail data, and respond to our seemingly endless requests for information. This project rested on their taking on and following through with the many responsibilities that went with this role, and the results shared in this report are based on their work. Thank you.

**AFFECTING CHANGE IN LITERACY PRACTICES
OF ADULT LEARNERS:
IMPACT OF TWO DIMENSIONS OF INSTRUCTION**

CHAPTER 1: THE STUDY OF ADULT LITERACY PRACTICE

When adult learners go to school to learn to read and write better, what do they do with this learning? Do they read and write more in their out-of-school lives? Do they begin to read and write different kinds of texts in their out-of-school lives? If such changes in literacy practices occur for adult literacy students, which dimensions of their literacy instruction can we suggest are related to changes such as these, if they do occur?

This study examines two aspects of instruction that could be related to changes in the types and frequencies with which adult literacy learners engage in reading and writing activities in their lives outside of school. Its significance lies in a broader view of adult literacy that sees adults' literacy practices as part of an intergenerational cycle of literacy and intimately tied to the emergent literacy development of children. That is, children's development of emergent literacy concepts is dependent upon their experience with literate others in their lives using print for real-life reasons (Purcell-Gates, 1995, 1996; Purcell-Gates & Dahl, 1991; Teale & Sulzby, 1986). Thus, change in literacy practices of adult learners also affects the emergent literacy development of the young children connected to the adult learners, and increases in emergent literacy knowledge is positively related to success in learning to read and write in school (Purcell-Gates & Dahl, 1991; Snow, Burns, & Griffin, 1998).

This study also contributes to a social practice theory of literacy (Barton & Hamilton, 1998) which views literacy as best understood as a set of social practices which are associated with different domains of life and which are purposeful and embedded in broader social goals and cultural practices. The questions pursued by this study explore the relationships, if any, between these social and cultural practices and adult literacy instruction. In other words, with this study, we began to explore what we refer to as the actualization of literacy instruction: the playing out in practice what has been attended to by focused formal instruction. While the major outcomes of the study result from quantitative analysis, we also include the participants voices as they reflect their experiences of literacy instruction and their literacy practices, with a resulting qualitative lens on the literacy practice change.

Given the above, this study can be viewed as a measure of instructional outcome for adult literacy students. Rather than conducting the traditional outcome assessment of change in literacy skill, or achievement, as measured by norm-referenced or criterion-

referenced tests (with all of the attendant difficulties with validity and reliability, especially for adult learners), we have assessed directly the impact of targeted aspects of instruction on the ultimate end-goal of all literacy instruction -- actual reading and writing practices of the students. One way to think of this is to accept that the assessment of reading and writing skill level is an interim measure of instructional outcome, since no one would argue that a final test score is the instructional end-point. Rather, it must be used to infer actual use of that reading and writing skill, and it is this use, or practice of reading and writing that is the ultimate outcome, or goal, of literacy instruction.

The study of adult learners' literacy practices is further motivated by the cognitive argument that literacy skills -- as is true of all skills -- must be practiced to become automatic, and that this practice is achieved in out-of-school contexts to a large degree by increased frequencies of reading and writing and/or reading and writing different types of texts in addition to those already commonly written and read. Automaticity (LaBerge & Samuels, 1974) in reading refers to fluent and effortless -- in the sense of not requiring conscious attention -- word recognition. Readers must attain automaticity in word recognition before they can attend to the actual purpose of reading -- comprehension. The cognitive demands of reading and writing words change according to their written contexts, and it cannot be assumed that automatic recognition of a word in one context ensures automatic recognition in another. Written contexts reflect variation in genre, textual form, and syntax. Examining the different types of textual contexts inherent in different reading and writing practices (e.g. reading lists, novels, mortgages; writing essays, personal letters, notes) is thus required to explore the degree to which adult learners are practicing their newly acquired literacy skills with the implication that an outcome of this activity is increased automaticity of written language processing.

Finally, this study was motivated by the need to empirically explore the theoretical claims, or inferences, that particular types of adult literacy instruction are better than others and that the benefits can be seen in the ways adults actually apply and use their reading and writing abilities.

Theoretical Frame

This study was conducted within a sociocultural theory of literacy development that views literacy as situated within sociocultural contexts and literacy use as cultural practice. Within this, the term literacy culture can be used to reflect all of the ways in which persons -- within individual families and homes as well as within different sociocultural communities -- use print, practice literacy, or engage in literacy practices. This implies the construct of multiple literacies, socially situated (Street, 1989). It also implies the social practice theory of literacy described above (Barton & Hamilton, 1998).

It must be noted that the definition of literacy practice that we assume differs slightly from that put forth by Barton and Hamilton in their ethnography of literacy practice in Lancaster, England, Local Literacies: Reading and Writing in One Community (1998, Cambridge University Press). Barton and Hamilton, coming from a social-theory perspective, define literacy practices as

...the general cultural ways of utilising written language which people draw upon in their lives. In the simplest sense literacy practices are what people do with literacy. However, practices are not observable units of behaviour since they also involve values, attitudes, feelings and social relationships....This includes people's awareness of literacy, constructions of literacy and discourses of literacy, how people talk about and make sense of literacy. These are processes internal to the individual; at the same time, practices are the social processes which connect people with one another, and they include shared cognitions represented in ideologies and social identities (pg. 6-7).

Barton and Hamilton state that while literacy practices are unobservable, the associated literacy events and texts are observable units. Literacy events, for Barton and Hamilton, are activities where literacy has a role and include both texts and talk around those texts.

While finding no fault with this definition of literacy practices and literacy events, we have chosen to focus on the central part of these: texts and the reading and writing of these texts. This differs partly because while Barton and Hamilton come from a social theory perspective, the senior author of this report comes from a sociopsycholinguistic perspective. As is described below, the study is motivated by interest in the cognitive and linguistic effects of different types of written texts on literacy learning. Thus, the focus is centered on texts that are involved in uses of written language. Therefore, when we use the term literacy practices we are referring to the reading and writing of specific texts for socially-situated purposes and intents.

CHAPTER TWO: RELATED LITERATURE

Family Literacy and Emergent Literacy Development

There is a wide body of research that documents the positive academic effects that accrue to young children who experience many and broad uses of print in their family lives (Snow, Burns, & Griffin, 1998). While a majority of this research focuses on the cognitive and linguistic benefits of reading to young children, other literacy practices also have been shown to relate positively to emergent literacy knowledge. Purcell-Gates (1996) documented significant relationships between the frequency of all types of reading and writing on children's development of the basic emergent literacy concept that print is (a) linguistically meaningful and (b) functions in different ways in people's lives. She also documented that the types of reading and writing practices engaged in by literate family members were significantly related to children's development of knowledge about the alphabetic principle and an array of print-related concepts (Clay, 1985).

Purcell-Gates and Dahl (1991), documented, in a two-year longitudinal study of low- SES kindergartners and first-graders, that those children who began school with greater knowledge of these same emergent literacy concepts were more successful at reading and writing at the end of first grade. In particular, the concept that print is linguistically meaningful and functional in people's lives was the most predictive of success at learning to read and write in school.

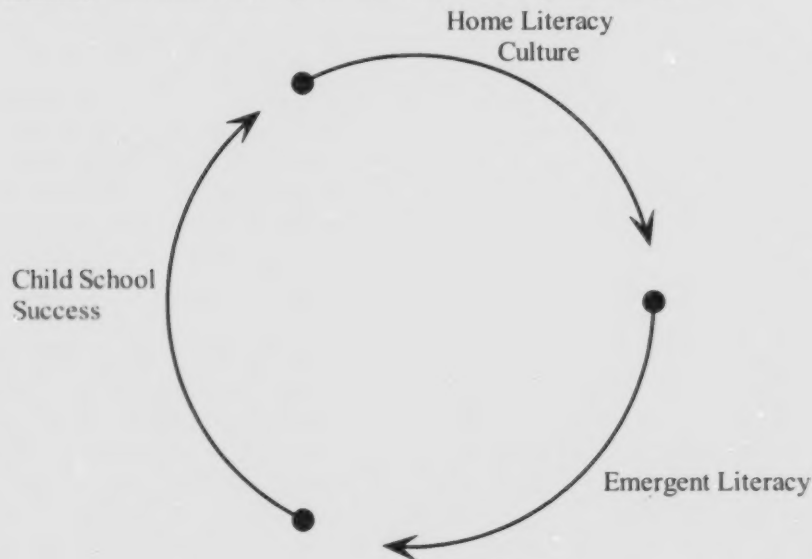
Adams (1990), in the landmark book, *Beginning to Read*, summarized hundreds of studies demonstrating that a necessary component of successful beginning reading was the ability to recognize and control the phonemic base of written English. This ability, widely known as phonemic awareness, is the precursor to being able to decode and encode words. The understanding that written English is encoded at the phonemic level¹ is what other emergent literacy researchers above, refer to as the *alphabetic principle*. Adams, as well as Snow, Burns, and Griffin (1999), synthesized a large body of research that demonstrated that phonemic awareness and knowledge of the alphabetic principle among young children was significantly related to both being read to in the home and to the overall literacy level and degree of reading and writing in the home environment. This latter was more

¹This roughly corresponds to the assignment of one sound, or phoneme, to one letter or letter unit.

directly demonstrated by the Purcell-Gates (1996) study of home literacy practices and young children's emergent literacy knowledge.

Taken as a whole, this research on family literacy practices and children's development of emergent literacy concepts strongly suggests that changes in family literacy practices will affect emergent literacy development. This, in turn, will affect the entire cycle of intergenerational literacy achievement. Figure 1 depicts this cycle, as documented by research.

Figure 1. The home literacy culture/school literacy success cycle.



Theoretical Biases for Adult Literacy Instruction

While very little empirical research exists on the outcomes of different types of adult literacy instruction (Wagner & Venezky, 1995), the prevailing belief among many academics and adult literacy program and policy leaders is that instruction which is (a) collaborative, dialogic, and responsive to the lives and needs of the learners (Auerbach, 1992; Freire, 1993; Horton in Glen, 1996; Purcell-Gates & Waterman, 2000) and (b) uses authentic, or real-life, literacy activities and materials is best for adult learners (Auerbach, 1995; Fingeret, 1991; Lytle, 1994; Stein, 2000). Thus, we focused on these two dimensions of adult literacy instruction in this study of the relationships between instruction and change in literacy practices.

Real-life Literacy as Part of Instruction

As noted by Lytle (1994), adult literacy programs differ in their emphasis on teaching predetermined sets of skills, or alternately, in building the literacy practices of everyday life (p.5). This is reflected in the contents of adult literacy textbooks, which range from life skills and problem solving to phonics and word family drills. For this report, literacy work grounded in the life of the student outside of the classroom was considered real-life literacy. We also use the term authentic to describe these outside-of-school literacy practices and materials.²

The distinction between real-life literacy activities/materials and school-only appears to be important in light of research that has suggested that students learn most efficiently when instructional materials reflect and incorporate students' prior experiences (Fingeret, 1991). Classroom activities using generative themes taken from the lives of adult learners have been seen to facilitate their acquisition of literacy (Freire, 1993; Glen, 1996; Purcell-Gates & Waterman, 2000). This perspective recognizes that adult learners have a wealth of experience on which to draw (Freire, 1993; U.S. Congress, Office of Technological Assistance, 1993). Given their many responsibilities (as parents and/or workers), adult literacy students have a limited amount of time for attending classes and studying. These students desire skills that they can use in the current contexts of their lives (Freire, 1993; U.S. Congress, Office of Technological Assistance, 1993) and often express a desire to use materials geared towards their day-to-day experience as adults and parents (Nwakeze & Seiler, 1993).

The use of real-life literacy materials and activities in adult literacy programs is supported by research that documents the powerful role of context in learning. For example, many workplace literacy programs teach literacy skills as they are needed within specific work contexts. Compared to programs that concentrated on more "general" literacy, adult programs that incorporated job-related materials were associated with larger increases in both job-related and general literacy (Sticht, 1989). Other studies have concluded that much of the growth made by participants

² We recognize the debate over the term §authentic§ as it applies to literacy events. While we acknowledge that school activities such as workbook skill work can be viewed as §authentic§ within a particular frame of pedagogy, we use this term for this report to reflect literacy uses found in social contexts outside of schools. In other words, we consider as §authentic§ those literacy events that researchers (Purcell-Gates, 1996; Teale, 1986) have documented as mediating people's social and cultural lives.

in general literacy programs is likely to be lost if recently learned skills are not applied, and thus practiced, in real-life situations (Brizius & Foster, 1987). Transferring skills, however, between contexts is extremely difficult and rarely accomplished by learners to the degree often assumed by educators (NCAL, 1995). Thus, it would make sense to involve learners in real-life literacy practices in the classroom to ease the transference problem.

However, the concept of "real-life" can actually be decontextualized in ways that reduce the effectiveness of its inclusion in adult literacy programs. Once activities and materials are mass-produced and mass-prescribed, they become increasingly distanced from the lives of individual students. Given the diversity of life situations among adult learners, this could easily happen in the adult literacy classroom. For example, a thematic unit centered around the use of checkbooks would be considered a real-life activity mediated by print by most middle-class people. However, it would not be contextually relevant for students who do not have checking accounts, have never had checking accounts, and have no realistic plans for opening checking accounts in the near future (Lerche, 1985).

One way some practitioners avoid this inappropriate use of real-life activities/materials is to respond to their individual students' literacy needs and elicit student-generated, student-provided, or student-requested texts. Hunter and Harman (1985) concluded that maximum use of this type of material was associated with higher levels of student achievement. Other researchers have suggested that student writing based on their own lives is associated with increases in writing skills (Stasz, Schwartz & Weeden, 1994; D'Annunzio, 1994).

Student/Teacher Power Relationships

Dialogic, collaborative, educational practice is that which includes the student as a participant and partner in the goals, activities, and procedures of the class and program. This is in contrast to the more typical practice wherein students cede authority and power to the teacher (or underlying program structure) for decisions regarding their learning. Freire (1993) refers to this latter type of education as a "banking" model of education, where the student is the passive recipient of the teacher's knowledge. This retains the students' object status, according to Freire, and precludes real learning or any significant changes in the lives of the students. To be truly liberatory, Freire maintains, an education must begin with the solution of the teacher-student contradiction, by reconciling the poles of the contradiction so that both are simultaneously teachers and students (p. 53).

There has been little research with regards to the influence of the structure of literacy instruction on students' acquisition of literacy (Lytle, 1994). However, this distinction between collaborative and teacher-directed power relationships appears to be important. Studies have shown that student learning is enhanced when students are active partners (U.S. Congress, Office of Technological Assistance, 1993) involved in decision making about their education program (Brizius & Foster, 1987).

Purcell-Gates and Waterman (2000) attributed a great deal of the success of an adult women's literacy class in rural El Salvador to the dialogic nature of the relationship between the teacher -- Waterman -- and the students. The women, all survivors of an oppressed childhood and a brutal civil war and all of whom were basically nonliterate at the inception of the class, became effective readers and writers, assuming positions of leadership that required literate activity in their community.

Fingeret (1991) also calls for dialogic practice and notes that curriculum development/teaching depends upon a knowledge of students' cultures. In dialogic/collaborative practice, instructors can be educated by their students about the students' culture and history. Given the variety of cultures, many of them nonmainstream and/or immigrant, from which adult education students come, becoming educated about students' cultures and histories may be a crucial element in adult education teaching in the United States at this time (NCAL, 1995).³

Typology of Self-Reported Descriptions of Degrees of Collaboration and Authenticity in Adult Literacy Classes

As preparation for this study, we undertook a survey of adult literacy program directors across the United States (Purcell-Gates, Degener, & Jacobson, 1998). Using a short questionnaire, delivered over listservs and by mail for randomly selected programs, we asked spokespersons of adult literacy programs to describe their programs. The questionnaire was structured to gain information about the two dimensions of interest: (a) the degree of collaboration, or power sharing, between the teacher and the students; and (b) the degree to which the activities and materials in the classes reflect real-life literacy uses. We received a total of 271 responses, representing programs across all regions of the U.S. Results showed a clear clustering of classes using materials and activities which are not authentic ("somewhat school-only" = 34%; "highly school-only" = 41%; Total = 75%) and teacher-directed rather than collaborative ("somewhat teacher-directed" = 61%; "highly teacher-directed" = 28%; Total = 89%). A full 73% of the reporting

³ For this study, we defined collaborative practice in terms of power sharing between teacher and student without, necessarily, the liberatory purpose inherent in Freirean-based definitions of dialogic practice (see Leistyna, Woodrum, & Sherblom, 1996).

practitioners described adult literacy classes that are teacher directed and involve their students primarily with activities and texts that are designed for only school-type settings and not for use in the out-of-school lives of the students. These categories are elaborated upon in Chapter 5.

This report documented that adult literacy classes, at least as described by those involved in the running and teaching of them, dramatically fail to reflect the prevailing beliefs about "best practice" for adults just summarized. The authors (in review) conclude:

This scenario is almost the direct opposite of that being advocated by the great majority of adult literacy academics and policy leaders in the United States. Thus, this result presents the field with an interesting conundrum: why is there such a gap between public policy and theory and actual practice, at least as described by practitioners? This is a serious and significant question to be addressed by the field of adult literacy, a field that has received increased portions of public funding and public attention in the last 10 years (p.22).

In this report, the authors clarify that their intention was not to test the efficacy of instruction that is both authentic and collaborative, but rather to lay the groundwork for such inquiry. The present study takes that descriptive study to the next step and begins to explore outcomes of adult literacy instruction that can be described along these two dimensions.

Research Questions

In summary, there is only some data and much theory about the "best" kinds of instruction for adult literacy development. There are good reasons to use change in literacy practices as an outcome of adult literacy instruction, given what we know about the need for practice of newly learned skills and about the emergent literacy benefits of many and varied uses of print in the lives of young children. No one has yet, however, systematically explored the relationships between types of literacy instruction and change in literacy practices on the part of adult students. The research questions for this study, thus, were: What are the relationships among (a) the degree to which adult literacy classes employ real-life literacy activities and materials; (b) the degree to which students and teachers share decision making; and (c) changes in students' out-of-school literacy practices. The outcome measure was change in out-of-school literacy practices of the students, both in frequency per type of practice and in types of practices.

CHAPTER 3: PARTICIPANTS

Recruitment

Teachers/classes and students were enlisted in this study through a process of snowball sampling. We initially contacted all respondents to the just-completed typology study, described above. Simultaneously, we put out calls over adult literacy listservs, through the National Center for the Study of Adult Learning and Literacy (NCSALL) contacts, databases, and publications. In addition, we began personally contacting state and regional adult education programs, asking for volunteers. To participate in the study, the site needed the following (a) at least one teacher willing to participate; (b) at least three students from that teacher's class willing to participate; (c) an identified local data collector, willing to be trained by us and to collect the data over the course of the study.

Criteria for Inclusion

In recruiting students, we sought to target adults who were working to improve their literacy skills. We considered students who were in the basic education levels, ranging from acquisition of basic literacy to acquisition of literacy skills needed to pass the GED. We established two sets of criteria for a cut off level for the ESOL students and the English-only students. ESOL students were only accepted into the participant pool if they did not possess high school diplomas or equivalents from their native countries. Further, they were not accepted if based on self-report they practiced high levels of literacy in their native language. While many of these students were in ESOL classes, for our purposes, they needed to be working on their literacy skills as well as on learning to read, speak and understand English. For English-only students, possession of a high school diploma or its equivalent did not disqualify them from the study, but they needed to be in their adult class to improve their literacy skills. Participants were paid \$10 for each questionnaire interview.

Portraits of Participants

The results of the analysis are based on the responses of 159 adult literacy students. Their ages ranged from 18 to 68. They attended adult literacy classes in 22 states, fairly evenly distributed across the mainland United States. The classes they attended represented the range of adult education class types including Adult Basic Education (ABE), English for Speakers of Other Languages (ESOL), classes specifically focused on helping adults gain their General Educational Development

(GED)credential, and different versions of family literacy classes. Their literacy levels upon entry to the classes they were currently attending ranged from preliterate to 11+ grade levels. Descriptive statistics for the participants along these dimensions are presented in Chapter 5: Analysis.

Personal Histories

The participants in this study report varied histories, many of them reflecting backgrounds of poverty, hardship, and schooling difficulties, all of which will seem representative and familiar to those educators who have worked with adult literacy students. One man, a father of two, in an ABE class related that he found himself living on the streets at a fairly young age:

I got my own place; then I had an injury. I had a lot of trauma...it was getting hit by a vehicle. I ended back in the hospital and then from there a group home...for 3 1/2 years. Now I'm in my own apartment finally after all that. I was like 27 when I first got my apartment after all of this havoc.

Another woman, working with a tutor, wove memories of her learning difficulties throughout her stories of personal struggle:

It was about in the 3rd grade when I realized that I was not able to read too well. I was 15 when my brother was shot and killed...I was never actually a teenager since that. I washed dishes in my mother's and daddy's café and then I married and then I became a mother at 17. When I was 21, I divorced him and married my husband that died in '95. When I was in the 3rd grade, I had a teacher named Mrs. K____, and she wanted to spend the summer with me to, you know, teach me how to read. Well, somethin' had come up and my aunt wanted to go visit Grandma and Grandpa in California, so my uncle, he told my aunt to take me. So I went to California and the day after I left, my teacher come to pick me up. So that was the end of that. I went to special ed, and I thought that I was doin' pretty good. They seen an improvement. So they took me outa there and put me in the 5th grade. Well, that threw a shock on me. Because I wasn't wantin' to leave. I wanted to stay there because I was doin' so good. I went to the bottom of the class again, and, right then, it just seemed like it was more down hill. I don't know why but my mind just closed. Up 'til the 8th grade. And that's when they kicked me out.

After her children left home, she attended a literacy program for two years. However,

It was after that that my son died and I lost my memory. I had had it lost for five years, after he died. My daughter also died. My husband died in '95. So, I found my boyfriend and I found a literacy school and I stayed. My daughter got me into it 'cause she was goin' to try to get her GED.

Immigrant ESOL students often related stories tied to poverty, exclusion, and violence. One woman from Guatemala reported:

I was in school in Guatemala. I have to walk 3 hours. I have to get up by 5 o'clock in the morning. I don't remember if I eat breakfast or not, but I have to get up early to walk to the school, and the school start by 8 o'clock (and) it's a long walk. I was 10 when I started school. (I went) only 3 years. Because there was no school closer to where my family lived, so I can't go anymore. (It was) dangerous. In 1993 I was in 3rd grade. So at that time there was people getting killed and everything. And the guerrillas and the government were fighting, so there was no way I could go to school. There were no kids going to school at that time. The teachers, they returned to the city.

Reported Personal Reasons for Failure

Many of the participants also reported internal characteristics that accounted for their failure to learn to read and write as children. In fact, for the most part these adult students had shouldered the blame for their previous difficulties, a phenomenon reported elsewhere about ABE students (Purcell-Gates, 1995; Purcell-Gates & Waterman, 2000). This is captured by ...

I was a weird person back then. I'm serious; I couldn't, like I said, I couldn't remember nothing. You know my mom would send me to the grocery store to get a gallon of milk and some bread. I would walk out the door, and I had to turn back 'cause I didn't remember what she said....and I guess hanging around with the wrong crowd didn't help either.

I had no confidence...I had my goals too low and I just had to realize that I need to take care of my needs.

...it's really hard for me...with words that sound the same and they're spelled differently. Like "there," "they're," and "their." That was hard for me 'cause I was always usin' the wrong "there," you know (chuckle).

I knew I had a lotta good tales I could tell. But I just couldn't get it all down, you know, 'cause it's still difficult for me to talk. 'Cause I have a speech impediment. And I thought it would help writin' it down stead of tryin' to talk. Every time I opened my mouth, they was kids all around makin' fun of me. So it was hard. But if I'd of realized then that every child had their own little piece of somethin' that was wrong. I thought I was the only one.

It don't stick in my brain. It's back there, I just have to open it up.

I couldn't keep it in my head. That's what was goin' on with me. I don't like to read. I mean I am lazy at it anyway.

I walked through the doors here in _____ with a third grade level reading. Pronouncing out words is still awful hard for me – even hearing out the sounds, that's a struggle.

When I started school here I didn't hardly know how to read and write and nothing. There were words that I should have been able to spell and all, I wasn't able to spell 'em. Things that I should have been able to understand, I didn't understand them.

Extrinsic Attributions for Failure

Often, though, the same students would offer up other explanations or recounts for the barriers they saw as standing in their way to full literacy. The following are examples of these, in addition to stories of violence and lack of access to schooling reported by many immigrants:

I was in a special education schooling system out in _____ and they didn't even want to teach me. I was treated really badly at

school. The kids made fun at me. They kept saying stuff that beat me down.

I was in the doctor's office here in _____ and they found out that in my right ear I have 75% no hearing in it. And my left ear is perfect. I have problems with my 'l' sounds, and when I do hear I have to look at people. They don't know if it's due because I had a manic (sic) fever when I was a child, or because of my mechanical micro (sic) valve, and I'm not getting enough blood or oxygen to my brain and hearing area.

My parents had died and left me, the oldest boy, to take care of the rest of the older ones, so I didn't have a chance to go to school to learn to read and write because I had to start working when I was very young. I was about 11 years old when I started on a public job.

My family broke up when I was very young. We were in foster homes for a while, and then from there we went to _____ Orphanage in _____. I tried going back to school. I tried going to _____, but I felt like I was being shunned from the other kids...So I just told my mother I wasn't going anymore. I was going to go and work and help her out.

I was classified as MR. That stands for "mentally retarded" and things like that. I was told that I would have to have someone watch over me the whole time, and you know being in the room with people talking not with you. You're just there. They're talking to someone else, so you're just another body, and they think so incapable, and I was at the point where I felt that I was so incapable that I better have everyone talk to someone for me this and that and stuff. I had no confidence.

Sources of Support and Motivation

Despite such difficulties, the participants in this study were all fully engaged in continuing their education, and a common theme of support emerged from interviews with them. This support came from different places, people, and sources but it all was important and key to the motivation driving these students to attend class and work on their literacy skills. Often, teachers were cited as providing important support and encouragement:

There's sometimes things are a little bit too personal; you don't wanna talk about it, but I would talk to _____ (teacher) about it, you know, and it feels good; it feels good to let it out. It feels good because you feel like you lost 10 pounds, you know.

There was no boring time. Sometime I'm really tired from work or something like that, and talking to her (teacher), she always give me something to make me feel better, taught me something...if I just really felt lousy going to school, I'll talk to her. She'll ask how's _____ and I tell her what wrong with _____ and things like that and then she will talk to me and after that I feel okay and do my homework.

I have my reading tutor for a year and a half now. She's been very, very patient with me. She's been helping me build up my sounds and show me how to do (math). We learn things together... I'll do just anything for the Adult Learning Center for their helping me out and being very patient with me.

...the woman that teaches us helps us quite a lot. Any problem that we might have, she tries to help.

We got a lot of teachers in here and you can go to them and ask them different things and they'll try to help you, or show you. They are very lovely people.

Participants also reported receiving significant support from family members. At times this support was given to encourage the participant to continue schooling. At other times, family members provided the support needed to get by in life with low literacy skills. Occasionally, participants told us about family members' attempts to teach them to read and/or write:

(My husband) took care of everything. He tried to teach me, but he went at it the way that I didn't think it shoulda been. I'd be a'writin' a story or tryin' to spell something and I'd ask him, and he would go into what other meanings the word has. But I was wantin' to know how to spell it. And I'd swear up and down I wouldn't try again, but then a month or so I'd bug him again.

(My husband) he'd come in and he'd set down and, you know, he'd help me read and he helped me a whole lot with the writin'. But, he started to work so that cut that down. But before long, it'd be winter (when he doesn't work as much) and we'll be able to stay here, and when you're together 24 hours a day, you might can do a little bit.

My husband, he always read. He read to me and the kids.

Before, I couldn't go out alone. I had to go with my husband so he could help me. He used to do all, everything.

He (first husband) took care of everything. I didn't need to (read and write), no.

Yeah, they (her parents before she got married) took care of everything (reading and writing tasks).

My mother, when they run the café, I waited tables and I didn't have to know how to write to do that 'cause I could go tell my daddy, and he had a memory, you know, like a horse. You tell him, and he'd keep it all in order.

My wife, she used to help me do everything. She used to have to make up all the (church) program, do all of the reading and writing going on.

Support and encouragement was also offered by people other than family members, according to the participants.

Reading, like, all these letters that I've been getting for child support. I used to have people read 'em for me. Even friends would write to me, and I would have people read 'em for me.

Sometimes I can't understand what the words are...but at least I try to read and somebody, people especially in the store, (will help).

(My caseworker) she sent me in. She just said, "Okay, now, go to school."

Well, this other girl was going to join it (adult literacy program), and she didn't really want to be alone in the class, so she asked me, why don't I join it? I says, "sounds interesting," so I tried it, and I've been there ever since.

Finally, several participants shared their belief that God had supported their efforts:

...but I know now that the Lord was dealing with me in studying and then learning about his word and everything, so I was able to learn more about how to spell different things in the Bible than I did in history.

Actually, God is first, you know, and I study going to church and talk to God. I talk to God a lot, and He helped me out a lot. He's pushed me a lot, you know.

I guess God chooses that day for you, you know, and I guess this is my year.

While the participants were clear that many people helped and were helping them in their struggle to learn to read and write, they also talked much of their intrinsic motivations which ranged from personal feelings of empowerment to the desire to be better workers or better parents. Following are selected quotes reflecting these feelings:

It feels good (to be learning to read). I wish I had just had all this power back then. But it's never too late.

(I've felt I could learn to read) ever since my little one has been in my life. If I would've known he was gonna change my life for the better...

I'm testing myself. I wanna know what I've really learned. I really wanna know how far I've gone because if I am reading a little bit more, I'll probably learn more like science, or whatever – things I didn't know back then, I'm learning now.

I have the baby now, and I read books with him. He's got his own little library.

Hopefully, I'll get my license (GED) and get more respect. You know, people see that license, you get more respect.

I wanna be first! I wanna do everything first now. I wanna make up for all the years. I'm serious, for all the thirty nine years.

Well, what really interested me was I was wantin' to write a story about my brother's death. About how he was killed and how much time did the guy that killed him spend in jail. The boy that killed my brother, when he got out, he was out a year and then he killed a boy. And I was wantin' to investigate that 'cause I don't know if he was shot, when the police shot him, but I never did find out if he was killed.

I just wanted to sit and read a book. I'd see people sittin' back, relaxin', readin' a book. And I've always wanted to do that.

What made me decide to go to school? It was because after I wasn't working or nothing like that I needed something to put my time into.

It's a great encouragement for your kids, whether they are little to big, or big to little, you have a positive role model to them and that's what counts.

We wrote an essay about why we wanted to get our GED, and I said in mine that I want to earn mine; I don't want people to give it to me.

Summary

The adult literacy students who participated in this study appeared to represent the range of students who are working to improve their reading and writing abilities in the various iterations of adult literacy classes in the United States today. They were both native-born and foreign-born. They ranged in age from 18 to 68. They had all failed to become fully literate as children for a variety of reasons, and they were currently learning in classes or in tutorial arrangements that reflected a range of configurations: ABE, GED, Family Literacy, Evenstart, and ESOL. Their personal histories reflected the economic and social struggles typical of poor and marginalized groups. Throughout their lives they had learned coping strategies to make up for their literacy difficulties,

leaning on others as well as finding their own inner strengths. At some point, for different and varied reasons, each had decided to make another commitment to learning and each was succeeding to differing degrees. Since adult students do not persist in programs where they feel unsuccessful, and we only included those students who were currently attending classes, it is fair to say that all of the participants in this study were experiencing academic success at the time we were involved with them.

CHAPTER FOUR: METHODOLOGY

Design

This study was descriptive and correlational in design. Multiple methods were employed to describe adult literacy classes along the two dimensions described above as well as to document (a) the full-range of literacy practices engaged in by the adult learner participants and (b) the changes, as self-reported, in literacy practices by the adult learner participants. For purposes of this study, change in literacy practices was operationalized to mean both the adoption of new types of literacy practices and increases in the frequencies with which familiar literacy practices are engaged. The relationships between the types of instruction experienced by the participants and any change in their literacy practices were captured through analysis of correlations

Data Collection

Classroom Data Protocols.

To type the classes along the two dimensions of interest, we developed three different protocols to allow us to triangulate our data. First, a five-page teacher questionnaire was developed which incorporated short-answer questions, check-off items, and Likert scales. The items elicited information about specific literacy activities and their purposes; materials and texts read and written; the involvement of students in the decisions to use these materials; the extent to which teachers felt the activities and materials reflected real-life activities and materials and the extent to which the students collaborated in choosing them; how student work was assessed and the extent to which students were involved in assessment; and the extent and type of student involvement in the overall program and program administration and policies.

Secondly, a protocol was developed for the data collector to use to describe the instruction along the two dimensions after observing a class in session. This protocol included holistic descriptions of the class sessions as well as individual items, including Likert scales, similar to those on the teacher questionnaire having to do with activities and materials used. Data collectors were instructed to first familiarize themselves with the content of the protocol and to take only field notes during the actual class observations. The protocol was to be filled in by the data collector immediately following the class observation.

Finally, a protocol was developed for the data collector to use in an interview with volunteer students, without the teacher present. This interview asked the students to describe the types of things they read and wrote in class and to rate the degree to which (a) they thought these activities and texts were "real-life" and (b) the degree to which they, the students, participated in choosing the activities and texts. The descriptions of class activities and texts were collected from the group discussion, with all contributions accepted. Responses to the Likert-scale items were recorded via a "vote" procedure, where students were to individually vote for the response they felt most accurately captured their perceptions. The data collector filled in student responses to the questions on the protocol at the time of the interview.

With the use of the Teacher Questionnaire, the Class Observation Protocol, and the Student Interview Protocol, we collected information about the two instructional dimensions of interest to the study -- teacher/student collaboration and authenticity of materials and activities -- from three different perspectives: the teacher, the students, and the data collector observer of the class. This allowed us to triangulate the data on which we depended to characterize the instruction associated with each student participant.

We piloted each of the three protocols in adult literacy classes not participating in the study. Each protocol was amended and adjusted as a result of this pilot work until we were satisfied that potential confusions inherent in the questions were clarified and that each question- or item- elicited the information we sought as it informed our research questions. In addition, for the Classroom Observation Protocol, three members of the research team used it to observe three different adult literacy classes, filling it in as appropriate. These completed protocols, demonstrating different types of classrooms, were copied and included as models in the training material for each data collector.

Student Home Literacy Questionnaires.

To gather data for our dependent variable -- information about change in the literacy practices of the adult learners -- we developed an extensive questionnaire for use with each student. The items on the questionnaire asked about specific literacy practices such as reading coupons, writing personal letters, reading to a child, and so on. The questionnaire included 26 items pertaining to adult reading, 14 items pertaining to adult writing, 7 items pertaining to adult-with-child reading, and 3 items pertaining to adult-with-child writing.

The items on the questionnaire came, for the most part, from a participant-observation study of reading and writing in the homes and lives of 20 low-income families (Purcell-Gates, 1996). Thus, they were derived from actual data to ensure grounded validity. To further ensure that we included all types of possible literacy practices, we piloted the questionnaire on five middle-income families. We added several items following this procedure.

For each item, the student was asked (a) In the past week, did you read/write X? (b) Can you show me or tell me about an example? (c) (If no) Have you ever read/written X? (d) (If yes) When was the first time you did this sort of reading? (e) How often? (f) Do you still do this sort of reading? Quotes and comments were also captured with each item. To provide a reliability check on the item of interest to us -- change in literacy practice -- we inserted between every fifth item, a question that summarized the preceding five items and responses and asked specifically about change: "I've just asked you about X, X, X, X, and X. Did you just begin to read any of these types of print (texts) after you began attending your literacy class? Specify which ones. Do you think you've read any of these items more often since you began attending your literacy class? Specify which ones." At the end of the interviews, data collectors asked if the participants could think of anything else they had read or written during the last week or ever. They were then invited to walk through the house to discover or point out texts they had read or written.

The Student Home Literacy Questionnaire was piloted with 45 adult literacy students who were not participating in the larger study. During the piloting, we refined items, questions regarding demographic and personal information about the participants, and directions to the data collectors within the questionnaire. For participants who spoke mainly Spanish, we used a Spanish version of the questionnaire, translated by a native- Spanish-speaking member of the research team. Spanish-speaking data collectors collected data from primarily Spanish-speaking participants.

While we had students in the participant pool who spoke non-English languages other than Spanish, we provided data collectors only for the Spanish-speaking students. This was due to the difficulty of finding, and employing, data collectors who spoke other languages. Therefore, for the non-native English speakers, other than the Spanish-speakers, a requirement for their inclusion in the study was that they speak and understand English well enough to answer the questionnaire items in English. We also had native Spanish-speakers who participated completely in English. They were judged by the teacher and themselves to be fluent enough to do so.

Since there is no theoretical or empirical reason to suggest that the language in which the reading and writing occurs is related to the degree to which young children in the home learn about emergent literacy concepts, our work with ESOL students focused on changes regarding specific text types, rather than the English skills they may be acquiring and using. To ensure that newly acquired English language skills were not conflated with changes in literacy practice, a separate form of the Home Literacy Questionnaire was developed for all ESOL students. On this form, each literacy practice question was asked as it applied to engagement in that practice for each language spoken by the student. This allowed us to control for reported changes in literacy practice that represented a shift into a new language.

Procedures

Site Management: Data Collector Training

Each of the four members of the research team took responsibility for overseeing the data collector training, collection of the data from the site data collector, and coding of the data from an assigned group of sites. Data collector training involved the research team member flying or driving to the adult literacy class site and meeting for approximately 4 hours with the data collector. At this meeting, the data collector was given two accordion folders, one of which contained the following: (a) protection-of-human-subjects information letters and agreement-to-participate-in-the-study forms (to be returned to the research office); (b) protocols for the class data; (c) copies of the Student Home Literacy Questionnaire; (d) stamped priority mail envelopes to mail the data to the university research base; (e) printed instructions for conducting the data collection and using each of the protocols; and (f) expense sheets and instructions on submitting expenses. The data collectors were instructed to copy all data before mailing it and keep the copies in the second accordion folder. At times, the research- team member met with teachers and program administrators to discuss the project.

Site Management: Site Maintenance

A major challenge for this study with its many far-flung sites was maintenance of a site. Following the data collector training, the individual research members maintained regular contact with their data collectors by phone and/or email. The purpose of this regular contact was to help problem-solve issues of data collection as they arose, locate new classes or students as needed, communicate with teachers and program administrators as needed, and so on.

Two members of the research team served as data collectors as well as site managers for sites close enough to the university to be visited by car on a regular basis. A third member of the research team managed sites around the Chicago, IL area since she was living there at the time. She also served as data collector for several of these sites. One member of the team was a Spanish national and she managed most of the ESOL sites and translated all of the protocols into Spanish. She also transcribed all of the audiotapes made in Spanish into English.

As mentioned above, we struggled over the course of the study with problems emanating from lack of proximity to our research sites. Often trained data collectors would "disappear" (at times, never to be heard from again) or programs would close before data could be collected. One program in New York City actually closed and reopened under new directorships three different times before a data collector could ever gain access to the site. With each change, we had to elicit new teacher and student agreements to participate. We also lost two different data collectors trained for this site as time passed and other opportunities arose for them. Related to this proximity issue was an ongoing problem of collecting data from the data collectors. Site management, in this sense, meant constant calls trying to locate data collectors to ascertain why promised data had not reached the research office.

Another issue that plagued us to the end was the administration of the questionnaires to second-language participants. Many of the data collectors failed to obtain information about literacy practices in both the native language and English. Also, some ESOL participants did not wish to give us information about their literacy practices in their native language. This made it problematic for judging whether or not a practice began or increased in frequency of use after the participant began the class. As a result, we had to drop a number of our ESOL participants from the final data pool.

Site Management: Central Data Base

A Project Manager, based entirely at the university office, was hired to maintain the central database as data were received, coded, and analyzed. The Project Manager maintained all participant records, permission forms, and codes. She also maintained contact information for programs, teachers, and data collectors. In addition, she recorded the minutes of all research meetings, communicated with data collectors, teachers, and program administrators as needed, and served as a liaison among research team members, data collectors, research center officials, and

the finance office of the university. Toward the end of the analysis period, this person also helped with qualitative data coding and entry.

Site Management: Research Meetings

One of the challenges of a multi-site research study is to maintain consistency of data collection across the sites. To this end, two-hour research team meetings were held weekly for the length of the data collection -- 20 months. At these meetings, solicitation of research sites was discussed and developed, assignment of sites and plans for data collector trainings were made, issues around the data collection and delivery were discussed and decisions made, and procedures for coding and analyzing the data were developed.

Following the data collection period, research meetings were held approximately every 2 months to discuss issues of data analysis and to plan for the collection of final class and student-level information dictated by the statistical analysis (see Analysis section for more detail). During the analysis period, much of the communication among research team members was carried out via email as the Principal Investigator had moved to a university in Michigan and, as stated before, one of the research team members lived in the Chicago area. The bi-monthly research meetings were held either at the Harvard research office or at professional conferences attended by all team members. On several occasions the Principal Investigator met with the Chicago-based researcher team member in Chicago during the reliability check period.

Class Data Collection

To collect the class data needed to type the individual classes along the two instructional dimensions of interest, the data collector first delivered the questionnaire to the teacher and arranged a time to observe a "typical" class, after which he/she would collect the questionnaire. During the class observation, the data collector assumed an unobtrusive position in the class and made notes on all that occurred as well as physical descriptions of the classroom, equipment, shelves, where students sat, and so on. During this visit, either during a break or right after the class, the data collector gathered a group of volunteer students to conduct the student interview. Following the observation, the data collector used the field notes to fill in the protocol for the observation. The data collector also read over the completed teacher questionnaire and arranged for a short interview with the teacher to clarify any ambiguous answers and to ask questions which may have arisen during the class observation.

Literacy Practices Questionnaire Data Collection

Data collectors conducted the literacy practices interviews in the homes of the participants. The context of the home was intentionally chosen to (a) remove the students from their literacy classes to ameliorate the tendency of participants in self-report studies to give the interviewer what they think is expected (in this case information that the students may think will cast their classes in a positive light); (b) to help the students think about real-life literacy practices -- rather than school-based ones -- by placing them in the context in which many of those practices would have occurred and from which they could select examples. The interviews were repeated every three months for as long as the student was in the program up to four times or until the end of the data collection period, which stretched over 18 months (although students began with the study at different points, reflecting the snowball sampling nature of the study). Each interview/questionnaire took an average of one and a half hours.

If a student changed classes during the course of the study, the data collector collected class data (with the same procedures and three protocols) on the new class and the student/class pair was treated as a new "site". This procedure was in response to the fact that the individual class was the unit of interest for this study, not an overall program. The questions on the literacy practices questionnaire were then asked in reference to the new class, the class currently being attended by the student.

Taped Interviews

To capture more directly the voices and stories of the students, in relation to our research questions, we sent each data collector a tape and sample interview questions and asked them to select one participant who they thought would make a good informant and to conduct a taped interview. The interview was to focus on the literacy histories of the participants and the life events that contextualized their seeking out literacy instruction as adults, their descriptions and feelings about their literacy classes, and the ways in which, if at all, their lives, including their literacy practices, had been affected by their instruction.

A total of 40 tapes were sent, and 17 were returned. Three of these were not used. Two were inaudible due to mechanical malfunctioning of the tape recorder used, and one was of a student who had been dropped from the participant pool by the time we received the tape due to an inappropriately high level of literacy ability. These audiotapes were transcribed and coded for themes in the responses. This data

is used only for illustrative purposes in this report and not as data for the analysis conducted to answer our research questions.

Other Relevant Student Data

Following the literacy practices data collection, all of the teachers were contacted and asked about the students' incoming literacy levels, attendance patterns, and number of hours per week the class was held. For literacy level, we sent the following request:

At what level of reading and writing would you say the student was when s/he joined this class? This is a subjective question and can be answered in several ways. If you can give a specific grade level (i.e. reading at a 5th grade level), that would be great. Otherwise, more general terms like low-literate or non-reader would also be helpful. Please indicate what evidence your response is based on (e.g., formal assessment, teacher observation, prior reports, etc.). Note: If the student's native language is other than English, please tell us what level the student was in both first language and English.

Teachers assessed their students differently. Some gave a grade level, some used terms like "pre-literate," others used TABE or CASAS test scores. As a research team, we created a five-point scale for literacy level, and together went over all the different teacher reports of student level and determined where on the five-point scale students fell. Students received a 1 if they were considered preliterate; 2 if their reading was at the grade 1-3 level; 3 for grade levels 4-7; 4 for grade levels 8-10; and 5 for grade levels 11 and higher.

For attendance, the teachers were given a five-point scale for describing their students' overall attendance patterns: 1 = Rarely Attends; 2 = Sometimes Attends; 3 = Attends More Often Than Not; 4 = Often Attends; 5 = Attends Very Regularly. All of this information was used in the final analysis. Tables 5 and 6, to be found in Chapter 5: Analysis, display this information.

CHAPTER FIVE: ANALYSIS

Class Data

Data on the individual classes were coded and triangulated for typing along the two dimensions in the following way: Information from each of the three protocols was transferred to one coding sheet into a matrix with the following headings: (a) Source (Class Observation, Teacher Questionnaire, Student Interview); (b) Activity/Material (e.g., "writing correspondence letters," "filling in worksheets," "reading children's books"); (c) Purpose (e.g., "to thank guest speaker," "to practice grammar," "to encourage parents to read to their children"); (d) and Assigned (choices were "by the teacher," "by the teacher and student together," and "chosen by the student"). All Likert scale numbers from each protocol were transferred to the coding sheet as well as responses to short-answer items. The coder then holistically assigned an authentic/school-only "score" as well as a collaborative/teacher-directed "score" to the class and placed the intersection of these onto a miniature dimensional grid located at the bottom of each coding sheet. This was later transferred to the central database. Criteria for typing the classes are contained in Tables 1 and 2. Coders were advised to consider proportion of instructional time devoted to relevant types of activities/texts whenever possible when making decisions about assignment of class type.

Table 1

Criteria for Classifying Classes Along the Authentic/School-Only Dimension

Type	Criteria
Highly Authentic	Classes that use only realia, or texts that occur naturally in the lives of people outside of a classroom (e.g. newspapers, journals, novels, work manuals, driver's license materials etc.). Further, the reading/writing activities that occur with these texts are the same as those which would occur with the texts outside of a learning situation. It is the confluence of these two factors that make programs highly authentic.
Somewhat Authentic	Classes in this category may mention skills and may use some published textbooks and workbooks, but student work is heavily concentrated on real-life texts and issues. Classes in this category may use real texts with activities that mimic but are not the same as those which would occur with the text outside of a learning situation. For example, letters-to-the editor are written but not be sent.
Somewhat School-Only	Classes are more highly focused on skills, with the majority of activities focused on phonics work, grammar work, workbooks, etc. Materials tend to be published textbooks and workbooks, though some mention may be made of authentic materials or activities such as Language Experience Approach, newspapers, journals, etc. This type of class tends to use facsimiles of real texts for learning to read these types of texts, e.g. photocopies of newspaper articles that are not current and not necessarily about topics of interest to students.
Highly School-Only	Classes have a set curriculum with a focus on skills, phonics, flashcards, etc. Most, if not all, materials are from publishers, and there is almost no mention of authentic materials or activities. These classes most likely do not use real life texts in any form. If they do, they are made up for teaching purposes and used for only skill learning (i.e. not for communicative purposes).

Table 2
Criteria for Typing Classes Along the Collaborative/Teacher-Directed Dimension

Type	Criteria
Highly Collaborative	Classes where students work with teachers to create the course, choose the materials, activities, etc. Students are also involved in all aspects of the program, may serve on the board, make decisions regarding meeting times, class rules, class structure, and location, etc. Students may also work to publish newsletters and may help in recruiting new students.
Somewhat Collaborative	Classes where student input is obviously influential on the activities of the class. These classes reflect an ongoing flexibility re curriculum to allow for response to students' interests and/or expressed needs. There is collaboration in choosing course content and activities. Students are in charge of their own learning.
Somewhat Teacher-Directed	Classes where students' goals, interests, and/or needs are taken into account when creating course content. Students have some input into class content, usually in the form of interest inventories, students' goals or IEPs. Teachers encourage student input. Students typically choose from materials and activities that have already been selected by the teacher. Classes in this category consider themselves to be client driven though ultimate course decisions typically rest with the teachers. Teachers give needs assessments throughout the students' time in the class. Teachers and students periodically reflect on goals and whether or not the class is meeting them.
Highly Teacher-Directed	Classes where students have little or no input into course content, activities or materials. Students may be given a needs analysis when they start the program but needs are not continually reevaluated. Teachers may say that demographics of the students impact course content. Often a set curriculum is followed in these classes.

Interrater reliability of the class typing was achieved and assessed in the following ways. First, to achieve initial agreement on class typing, the entire research team worked together to type approximately five classes. During these sessions, we talked aloud about the criteria for each decision and came to agreement.

After these sessions, each member of the team coded their classes from their collection of sites for which each was responsible. However, data collected by a research team member, as opposed to a data collector not on the team, was coded by another team member to ensure comparability of coding decisions across all sites.

Secondly, an interrater reliability check was conducted by randomly selecting one-third of the coded sites and recoding them. The recoding was done independently by the three research team members who had not coded the site originally, with the exception of those sites where the data collector was a team member. These were distributed to the two members of the team who had not originally coded the site nor had collected the data. Pairwise correlations of the results (Spearman's Rank Correlations) ranged from $r = .56$ to $r = .76$ for the Collaborative/Teacher-Directed dimension and $r = .60$ to $r = .76$ for the Authentic/School-Only dimension. Considering these interrater reliabilities too low, we initiated a third procedure.

The two team members with the highest overall agreement in the initial reliability check met and clarified criteria for typing the classes along the dimensions.

With rewritten rubrics, they then each recoded one-half of the entire class data set, again assigning sites for recoding to the team member who did not collect the data. An interrater reliability check was run on the entire recoded class data set with the following results: Authentic/School-Only dimension -- $r = .86$;
Collaborative/Teacher-Directed dimension -- $r = .78$.

Home Literacy Practices Questionnaire

Data from the Home Literacy Practices Questionnaire that were directly relevant to the research questions were transferred onto a coding sheet with the following matrix headings for each literacy practice asked about: "Last Week;" "Ever;" "Since Class;" "More Since Class." The coder marked a '0' for "no" and a '1' for "yes" in each of these columns. A star (*) was used to indicate missing data and a '2' to indicate that the question was not applicable for that participant, given who they were (e.g. if they did not have children to read to) or their answers to previous questions (e.g. if they had already said yes to reading coupons, then the question "Have you ever read coupons?" was not applicable). Coder decisions about the change columns ("Ever" and "Since Class") were based on the questions that asked about dates of beginning the class, dates that practices began, and the direct questions about beginning the practice or engaging in it more frequently.

Interrater reliability for the coding of the Home Literacy Practices Questionnaire was checked by randomly selecting 77 of the coded questionnaires from a total of 293 (26% of all coded questionnaires). Each of these selected questionnaires was recoded by another member of the research team. The completed code sheets were then compared for agreement of code at the individual question level. A total of 8,155 codes were examined. The overall rate of agreement between the original code and the second code was 94%. In the following categories, the rates of agreement of agreement were similarly high; (a) Reading in Native Language (for ESOL students) -- 92%; (b) Reading in English (for all students) -- 94%; (c) Writing in Native Language (for ESOL students) -- 93%; (d) Writing in English (for all students) -- 94%; (e) Literacy Practices "This Week"-- 95%; (f) Literacy Practices "Ever"-- 96%; (g) Literacy Practices "Initiated Since Class" -- 94%; (h) Literacy Practices "More Since Class"-- 89%.

Scaling Responses to the Questionnaire Items.

The final purpose of this analysis was to model the changes in literacy practices using the theoretically-derived predictors of (a) authenticity of instructional activities/texts and (b) collaborative nature of teacher/student relationship. Rather than perform analyses on individual literacy practices, the practices were placed on a common scale. This was done because the reliability of responses to individual survey items is very low, resulting in a less powerful analysis. When aggregating responses over the entire set of items answered by each respondent, the reliability of the resulting scale is much higher (Mehrens & Lehmann, 1991), resulting in a more powerful analysis.

Item Response Theory (IRT) methodology was used to place the literacy practices and respondents on a common scale. All IRT estimation was performed using BILOG (Mislevy & Bock, 1993). IRT methodology (Lord, 1980) was chosen for the following reasons:

1. IRT methods can place literacy practices and respondents on a common scale even with substantial amounts of missing data.
2. IRT methods can provide an estimate of each respondent's engagement in specified literacy practices, or an estimate of each respondent's change in level of engagement in specified literacy practices
3. IRT methods can provide for each literacy practice a measure of the threshold of the estimate of engagement or change that each examinee needs to have a given probability of engaging in or changing in that literacy practice.
4. IRT methods provide a measure of each literacy practice's capacity to discriminate between respondents with high and low estimates of engagement in specified literacy practices or change in engagement in specified literacy practices.
5. If the data fit the assumptions of the IRT model, the reliability of the resulting scaled scores is generally greater than that obtained through classical reliability analyses using Cronbach's alpha, resulting in more powerful analyses using the scaled scores.
6. Because IRT scaling tends to spread scores out, a greater variation in scores generally results, which in turn results in higher reliability than when using classical test theory methods and more powerful analyses.

A first attempt at scaling endeavored to place each literacy practice and each Time One (reflecting the initial administration of the questionnaire to the participant) respondent on three scales corresponding to the four questions asked: (1) a baseline measure of engagement in literacy practice, (2) a measure of change informed by the development of new literacy practices, and (3) a measure of change informed by increased frequency of engagement in literacy practices.

Scale 1 (literacy practice engagement scale) resulting from the IRT analysis had acceptable psychometric properties, in that it had a high reliability (0.87) and no statistically significant misfit for any literacy practices included in the scale. However, scales 2 and 3 resulting from the analysis (new practices and increased frequency of use of practices, respectively) had unacceptable psychometric properties in that they had statistically significant misfit for many of the literacy practices included in the scales.

There were few respondents who indicated they had begun new literacy practices.⁴ There were also few respondents who indicated that they had increased their frequency of engagement in literacy practices. The rarity of respondents indicating change in each of the two separate measures was the apparent cause of the misfit of these scales. This results in little variation, and poor estimation. To address this problem, a more generic measure of change was created by collapsing responses to the questions concerning new literacy practices and increased frequency of literacy practices. Thus, if respondents said that they had begun the practice in question or had more frequently engaged in it since beginning the current adult education class, they were coded as having changed with respect to that literacy practice. By combining responses in this way, change in literacy practices became a more common event.

The modified data set was rescaled, resulting in a new scale, measuring change in engagement in literacy practices (with change operationalized as adoption of new practices and/or increase in engagement in practices), with acceptable psychometric properties. The literacy practice engagement scale (from the first scaling attempt) and the change in literacy practice engagement scale (from this attempt) were applied to responses to the second survey, and were found to still have acceptable psychometric properties.

Although these scales had acceptable psychometric properties when applied to second administration data, problems of inconsistency across administrations arose. More than one half of respondents had a lower level of engagement or change in literacy practice engagement at the second administration than they did at the first administration. This presents a problem because the level of engagement and change theoretically cannot drop from one administration of the survey to a later administration because these are measures of ever having engaged, or having changed at some time since the beginning of class.

The data set was inspected for literacy practices or respondents that exhibited the largest amounts of inconsistency. No set of literacy practices or respondents exhibiting obvious inconsistencies could be identified. When inspecting the data for consistent responses practice by practice and respondent by respondent, approximately 50 percent of all possible inconsistencies were found to exist.

⁴ This was not unexpected, given the full range of literacy practices asked about. As can be seen on the scale of engagement, most of the students had already engaged in most of the practices over their lifetimes.

We had foreseen this situation when designing the study, given the population we were working with. First of all, everyday literacy practices are difficult to recall for most people, given the ubiquitous ways in which they weave themselves throughout everyday life. Secondly, adult literacy students often have difficulties recalling life events consistently across recall sessions. Therefore, the questionnaire and its multiple administrations were designed to give these participants maximum opportunity to indicate change in literacy practices. It was believed that in the unlikely event that indicators of *engagement* and *change* were stable at each administration this data could then be used for growth modeling across time. If not, we could still answer our research questions. Because of the inconsistencies in the final data set, the multiple administrations of the survey served our original purpose – exploring relationships between change in literacy practices and the two instructional dimensions of interest. Thus, responses were collapsed again, this time across administrations. If respondents reported at any administration that they had engaged in or experienced a change in engagement in a given literacy practice, it was counted as *engagement* or *change*.⁵

The modified data set was rescaled, resulting in one scale measuring baseline literacy practice engagement and another measuring change in literacy practice engagement. The scale measuring change had acceptable psychometric properties, with an estimated reliability of 0.94, and no literacy practices exhibiting statistically significant misfit.

However, the scale measuring baseline literacy practice engagement did not have acceptable properties-- more than half of the literacy practices included in the scale exhibited statistically significant misfit. The reason for this misfit was apparently that when combining responses about literacy practice engagement across all four administrations of the survey, almost all respondents had at some time engaged in almost all literacy practices. This resulted in little variation, and poor estimation.

The baseline measure of literacy practice engagement was seen as an

⁵ We do not feel that the inconsistency of the responses by participants regarding change in particular literacy practices presents a reliability threat to the data set. On looking back over the course of the data collection, together with data collector comments on the questionnaires, it seems highly likely that on the second, third, and fourth administrations, participants interpreted the change questions (e.g., have you begun, or increased in frequency, to read/write XXX since you began attending your class) as referring to the last time they answered the questionnaire questions, not as repeat questions. Therefore, if they had indicated on the first administration that a particular practice was new or increased, they tended to answer 'no' to the same question about that practice on later administrations. This resulted in inconsistency across administrations.

important covariate to control for in predicting change in engagement in literacy practices. It was also important that the engagement scale correspond to the change scale, meaning that both needed to be created in the third attempt that combined responses across administrations of the survey. However, the poor fit of the engagement scale necessitated eliminating it from the analysis. Fortunately, as shown in the section on modeling change, the effect of losing this baseline measure of engagement in literacy practices was unimportant to this analysis.

Finally, the size of the total sample changed for the final analysis. Because of missing data⁶ it was possible to estimate a change score for only 159 of the 173 respondents, a loss of eight percent of the sample.

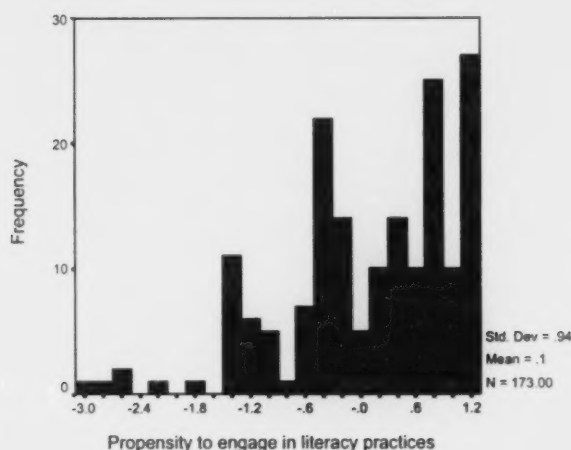
Literacy Practice Engagement Scale

Because placing literacy practices on the continuum defined by the scale of Literacy Practice Engagement has theoretical importance, it is presented here. Because this scale was not appropriately estimated when combining responses across administrations of the survey, the first attempt at scaling (using only first administration data) is presented.

This scaling procedure produced a single score for each respondent, estimating that respondent's engagement in literacy practices, as reported by the participants at the time of their first interview. The estimated reliability of the scaled scores was 0.87, indicating that only 13 percent of the variance in scaled scores was attributable to measurement error. The resulting distribution of the scaled scores had, approximately, a mean of 0 and standard deviation of 1, as shown in Figure 2. The respondents on the low end of the scale reported minimal engagement in literacy practices, while those on the high end reported a substantial engagement.

⁶ The missing data were almost entirely the result of data collectors who did not understand that non-native English speakers were to be asked about literacy practices in *both* English and their native languages. Thus, incomplete and unusable data were produced for a number of ESOL students.

Figure 2. Distribution of Literacy Practice Engagement scaled scores.



The scaling procedure also produced three estimates for each literacy practice, which are displayed in Table 3. The three estimates were: (1) a measure of the threshold of engagement needed for a respondent to have a 50 percent chance of engaging in that literacy practice, (2) a measure of the literacy practice's ability to discriminate between respondents with low and high estimates of engagement, and (3) a measure of the fit of the literacy practice to the IRT model. None of the individual literacy practices exhibited significant misfit, providing evidence that the IRT model fits the data. In addition, the literacy practices' estimated threshold for engagement was spread out well along the scale, and their abilities to discriminate were reasonably high.

Table 3
Literacy Practice Engagement Scale

Practice discriminating threshold for Significance				
#	ability §	engagement †	of misfit ‡	Item description
3*	0.05*	-3.00*	*	reading: labels, container print, signs
5	0.82	-2.88	1.00	reading: calendars, tickets
1	1.07	-2.52	1.00	reading: ads, coupons, fliers
2	1.16	-2.33	1.00	reading: bills, bank statements, receipts
24	1.13	-2.25	1.00	writing: names, labeling
4	0.66	-2.16	0.55	reading: books and stories
10	0.82	-2.06	0.69	reading: menus
12	1.70	-2.03	1.00	reading: addresses, phone books
11	0.85	-1.96	0.62	reading: messages, notes
14	0.96	-1.90	0.62	reading: postal letters
15	0.56	-1.85	0.32	reading: school communication
8	1.32	-1.74	0.64	reading: directions (recipes, shopping lists...)
9	0.71	-1.52	0.79	reading: essays, compositions, text for information
16	0.85	-1.50	0.43	reading: schedules, guides
30	1.53	-1.47	1.00	writing: messages, notes
31	0.89	-1.42	0.12	writing: postal letters
25	0.98	-1.35	0.25	writing: checks, money orders, gift certificates
26	1.21	-1.20	0.41	writing: on calendars, appointment book
29	0.79	-1.16	0.19	writing: lists
13	0.99	-1.13	0.54	reading: periodicals (horoscope, sports...)
28	1.65	-1.05	0.48	writing: forms, applications
7	1.03	-0.94	0.66	reading: documents (lease, mortgage, portfolios...)
6	1.08	-0.58	0.65	reading: comics, cartoons
17	0.80	-0.24	0.91	reading: song lyrics
27	0.66	0.04	0.11	writing: speeches, reflection, stories, poems
32	1.01	0.05	0.39	writing: instructions

§ Higher values indicate higher discrimination between respondents with differing propensities to engage.

† Low values indicate low thresholds for engagement, high values indicate high thresholds.

‡ The p-value of the fit statistic for each literacy practice. $p < 0.05$ indicates statistically significant misfit.

* All respondents reported engaging in this practice. Thus, its discriminating ability is near zero, its misfit could not be estimated, and its threshold was set to -3.00 rather than the unreasonable value (-34.67) given by BILOG.

Interpreting the Literacy Practice Engagement Scale

The Literacy Practice Engagement Scale in Table 3 presents a picture of how commonly engaged-in were the literacy practices, inquired about through our questionnaire, among the participants in this study as reported at each participant's first interview. Those practices at the top of the scale, (e.g., "Reading labels, container print, signs" and "reading calendars, tickets") were more commonly engaged in than those at the bottom. The level of engagement, across all of the participants, in the individual literacy practices is scaled here, top to bottom.

With this scale, it was possible to give each participant a score, representing their literacy practice engagement. Using the metrics from the results of the scaling, a hypothetical participant could have received a score of -1.50 on the engagement scale. This would allow us to say that this person has a 50 percent probability of having engaged in "reading schedules and guides" (practice #16 on the questionnaire coding sheet) because that practice's threshold for engagement is equal to the participant's score on engagement. The lower (or higher) the threshold for engagement, the higher (or lower) the probability that a participant has engaged in that practice. For example, it is much more likely that our hypothetical participant has engaged in "reading calendars and tickets" (practice #5) because that practice's threshold (-2.88) is lower than the respondent's engagement score of -1.50, and the practice's discriminating ability (0.82) is reasonably high. Likewise, it is much less likely that our hypothetical participant will have engaged in "writing instructions" (practice #28) because that practice's threshold (0.05) is much higher than the respondent's engagement score of -1.50, and the practice's discriminating ability (1.01) is reasonably high.

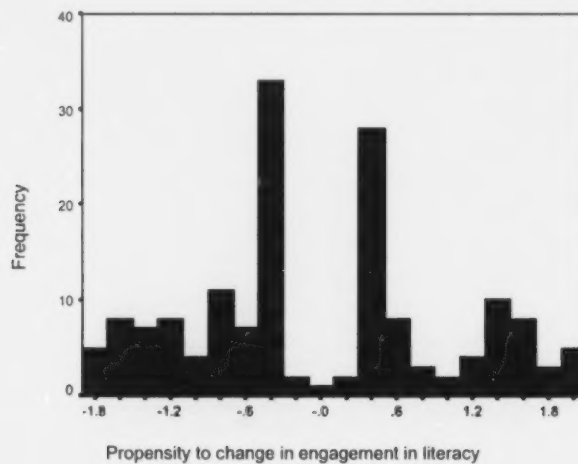
While the distribution of scores on this scale has a mean of 0 and a standard deviation of 1, all but two practices had thresholds of less than 0. This indicates that at the time of the first administration of the survey, most respondents had engaged in most of the literacy practices included in this survey (see Footnote #4).

Change in Literacy Practice Scale

The Change in Literacy Practice Scale (Table 4) presents a picture of the frequency of reported literacy practice change by individual practices. The scaling procedure also produced a single score for each respondent, estimating that respondent's change in level of engagement in literacy practices. The estimated reliability of the scaled scores was 0.94, indicating that only 6 percent of the variance

in scaled scores was attributable to measurement error. Along with each respondent's score, a standard error was produced, estimating the amount of uncertainty in the score. The scores and their accompanying standard errors were later used to model change in literacy practices. The resulting distribution of the scaled scores had, approximately, a mean of 0 and standard deviation of 1, and is shown in Figure 3. The respondents with low scaled scores reported minimal change in their literacy practices, while those with high scaled scores reported substantial change.

Figure 3. Distribution of Change in Literacy Practice Engagement scaled scores.



The scaling procedure also produced three estimates, two estimates for each literacy practice as well as measure of fit, which are displayed in Table 4. None of the individual literacy practices exhibited significant misfit, providing evidence that the IRT model fits the data. The practices' estimated threshold for change was spread out well along the scale, and their abilities to discriminate were reasonably high.

Table 4
Change in Literacy Practices Scale

Practice discriminating threshold for significance				
#	ability *	change †	of misfit ‡	Item description
9	0.92	-0.29	0.12	reading: essays, compositions, text for information
4	1.15	-0.22	0.66	reading: books and stories
3	1.90	-0.10	0.83	reading: labels, container print, signs
15	1.02	-0.09	0.77	reading: school communication
30	1.19	-0.08	0.82	writing: messages, notes
5	1.67	-0.06	0.65	reading: calendars, tickets
27	1.37	-0.03	1.00	writing: speeches, reflection, stories, poems
11	1.34	-0.01	0.77	reading: messages, notes
13	1.24	0.14	0.85	reading: periodicals (horoscope, sports...)
8	1.72	0.17	0.86	reading: directions (recipes, shopping lists...)
32	1.00	0.18	0.45	writing: instructions
1	1.33	0.21	0.78	reading: ads, coupons, fliers
26	1.05	0.23	0.86	writing: on calendars, appointment book
2	0.96	0.23	0.11	reading: bills, bank statements, receipts
16	1.11	0.27	0.40	reading: schedules, guides
12	1.43	0.27	0.70	reading: addresses, phone books
14	1.35	0.29	0.67	reading: postal letters
25	0.73	0.32	0.62	writing: checks, money orders, gift certificates
29	1.44	0.32	0.49	writing: lists
17	1.63	0.33	0.40	reading: song lyrics
10	1.59	0.37	0.48	reading: menus
7	0.92	0.41	0.48	reading: documents (lease, mortgage, portfolios...)
31	1.42	0.46	0.81	writing: postal letters
24	1.45	0.47	0.82	writing: names, labeling
28	0.79	0.52	0.35	writing: forms, applications
6	1.05	0.69	0.77	reading: comics, cartoons

* Higher values indicate higher discrimination between respondents with differing propensities to change.

† Low values indicate low thresholds for change, high values indicate high thresholds.

‡ The p-value of the fit statistic for each literacy practice. $p < 0.05$ indicates statistically significant misfit.

Interpreting the Change in Literacy Practice Engagement Scale

By examining the Change in Literacy Practice Scale, we can see which literacy practices underwent greater to fewer changes, as reported by our participants. Participants reported change in those practices at the top of the scale (e.g. "Reading essays, compositions, text for information" and "Reading books and stories") to a greater degree than those at the bottom, with the frequency of change scaled from top to bottom.

Each participant, as a result of the scaling procedure, received a change score that was then used in the analysis. For example, a hypothetical participant could have received a change score of 0.30 on the Change in Literacy Practice Engagement Scale. This person would have an approximately 50 percent probability of changing her level of reading postal letters (practice #31), because that practice's threshold for change is nearly equal to the participant's change score. The lower (or higher) the threshold for change the higher (or lower) the probability that a participant will have changed her level of engagement in a literacy practice. For example, it is much more likely that our hypothetical participant will have reported change in her engagement in "reading essays, compositions, and text for information" (practice #9) because that practice's threshold (-0.29) is lower than her change score, and the practice's discriminating ability (0.92) is reasonably high. Likewise, it is much less likely that our hypothetical participant will have changed in his or her engagement in "writing forms and applications" (practice #28) because that practice's threshold (0.52) is much higher than the respondent's propensity to change (0.30), and the practice's discriminating ability (1.05) is reasonably high.

While the distribution of scores on this scale has a mean of 0 and a standard deviation of 1, about two-thirds of the literacy practices had thresholds of larger than 0. This indicates that most respondents had not reported change in most of the literacy practices included in the survey. This can also be taken to indicate that the validity threat in the tendency to give socially desirable responses in self-report questionnaire studies was not apparent in the data.

Hierarchical Linear Modeling to Model Change

The literacy practice change score resulting from the IRT analysis was the outcome variable for the analysis. As a result of our sampling procedures, participants were nested within classrooms, meaning that there were multiple respondents to the questionnaire per classroom. Because we were examining instructional effects on the outcome measure, each classroom was expected to have a

unique effect on change in literacy practices. Thus, if we used ordinary estimation methods and ignored classrooms' effects, the errors would not be independent (Bryk & Raudenbush, 1992). A preliminary analysis showed that the intraclass correlation (a measure of dependence among observations) was 0.46, indicating that approximately 46 percent of the variance in the outcome measure was attributable to classroom-level differences. Even a small intraclass correlation coefficient can inflate error rates up to seven times (Weinfurt, 1995).

A typical method for addressing this problem is to include class membership in the model as a fixed effect, thus accounting for the source of dependence among errors. However, because there was great variability in the number of students in each class, and to conserve degrees of freedom for testing the effects of interest, a hierarchical linear model (HLM) was estimated. Like ANCOVA, HLM accounts for the nested nature of the data, but can handle unbalanced cell-sizes effectively (Bryk & Raudenbush, 1992). HLM estimates the variance of the class effects rather than estimating the individual effects of each class directly. This expends only one degree of freedom, reserving the remaining degrees of freedom for tests of the effects of interest (Bryk & Raudenbush, 1992). This approach was appropriate for this study because individual classroom effects were not of interest, but they did need to be controlled for. HLM also adjusts the degrees of freedom used to test class level effects, thus providing more accurate, uninflated tests of their significance (Bryk & Raudenbush, 1992). All models were estimated using the HLM for Windows (version 4.0) computer program by Raudenbush, Bryk, and Congdon (1998).

To account for the varying degrees of uncertainty in the estimation of the outcome variable, the inverse of the standard errors were used as weights. The inverse of the square of the standard errors were used as weights because the weights are assumed to be measures of certainty rather than measures of uncertainty. Thus, a weighted HLM model of change in literacy practice engagement was estimated.

Respondent-Level Predictors of Change

Change in literacy practice engagement was assumed to be related to various predictors, both at the respondent level and at the classroom level. These predictors can be thought of as possible confounding variables. Therefore, we needed to explore each one's relation to our outcome variable of change in literacy practice engagement in order to control for them in our analysis of whether or not type of instruction is related to change in literacy practice. The participant-level predictors investigated were the following:

- Attend: Attendance level
- LitLev: Incoming literacy level
- Gender: Gender of the respondent
- ESOL: English for Speakers of Other Languages status
- Tutor: Whether the respondent had a one-on-one tutor
- Days: The number of days from the respondent's entry in the current adult education class to the time of the first administration of the survey

Table 5
Descriptive Statistics of Categorical Respondent-Level Variables

Variable	Values	Original sample		Final sample	
		N	Percent	N	Percent
Attend	1.0 - Rarely	8	4.6	7	4.4
	2.0 - Sometimes	12	6.9	12	7.5
	3.0 - More often than not	20	11.6	18	11.3
	3.5 - Between 3 and 4	2	1.2	2	1.3
	4.0 - Often	32	18.5	29	18.2
	4.5 - Between 4 and 5	1	0.6	1	0.6
	5.0 - Very regularly	98	56.6	90	56.6
	Total	173	100.0	159	100.0
LitLev	1.0 - Preilliterate	33	19.1	33	20.8
	2.0 - First to third grade	34	19.7	30	18.9
	3.0 - Fourth to seventh grade	54	31.2	49	30.8
	4.0 - Eighth to tenth grade	38	22.0	35	22.0
	4.5 - Between 4 and 5	1	0.6	1	0.6
	5.0 - Eleventh grade and up	13	7.5	11	6.9
	Total	173	100.0	159	100.0
Gender	Male	49	28.3	46	28.9
	Female	124	71.7	113	71.1
	Total	173	100.0	159	100.0
ESOL	No	100	57.8	98	61.6
	Yes	73	42.2	61	38.4
	Total	173	100.0	159	100.0
Tutor	No	129	74.6	118	74.2
	Yes	44	25.4	41	25.8
	Total	173	100.0	159	100.0

The descriptive statistics of the categorical variables are presented in Table 5, and the descriptive statistics of the quantitative variables are presented in Table 6, using both the entire sample (N=173) and the reduced sample for whom an estimate of change

in literacy practice engagement was available (N=159). Note that *Attend* and *LitLev* are presented in both tables since they can be considered both categorical and quantitative.

Table 6
Descriptive Statistics of Quantitative, Respondent-Level Variables

Variable	Original sample			Final sample		
	N	Mean	St. Dev.	N	Mean	St. Dev.
<i>Attend</i>	173	4.2	1.2	159	4.2	1.2
<i>LitLev</i>	173	2.8	1.2	159	2.8	1.2
<i>Days</i>	171	417.9	506.7	157	435.2	521.4

Note that in Tables 5 and 6, the descriptive statistics changed very slightly from the full sample to the reduced sample with change scores. This suggests that the effect of losing the 8 percent of the sample should not have much effect on the outcome.

The predictor *Days* was highly positively skewed. This could result in inordinate influence of outliers on the model estimation. To account for this possibility, a new variable, *LogDays*, was created by taking the natural log of the *Days* predictor. This new predictor was approximately normally distributed. All models were estimated twice, once with *Days* and once with *LogDays* as a predictor. The skewness of the original predictor had little effect on the estimation of the models. To ease the interpretation of the final model, results of models estimated using the original *Days* predictor are reported.

The variable *literacy practice engagement* was to be used as a predictor at the respondent level as well. However, as mentioned above, literacy practice engagement could not be estimated in such a way as to correspond with change in literacy practice engagement. To investigate the effect of losing this scale as a covariate in predicting change, an HLM model of change was estimated using only first administration data. This was done because the Literacy Practice Engagement Scale had acceptable properties when created using only first administration data. In modeling first administration (of questionnaire) reported change in literacy practice engagement, we discovered that *incoming literacy level* (*LitLev*) was collinear with *literacy practice engagement*, and was a much more powerful predictor of change. Thus, we conclude that the loss of *literacy practice engagement* as a covariate had no negative effect on the analysis.

Classroom-Level Predictors of Change.

In addition to our variables of interest, degree of authenticity and degree of collaboration, one could argue that other classroom-level factors could affect change in literacy practices. Since these could be seen as confounding variables, we needed to examine each for their relationship to our outcome of literacy practice change, allowing us to control for them in the analysis. The following classroom-level predictors were investigated:

- Frequency: Hours of class per week
- Authenticity: Authentic nature of the classroom
- Collaboration: Collaborative nature of the classroom
- ESOL: Whether the classroom followed the ESOL format
- ABE: Whether the classroom followed the ABE format
- FamLit: Whether the classroom followed the family literacy format

There were also some GED classrooms, but not enough to estimate the effect of the GED format. Descriptive statistics of the categorical variables are presented in Table 7, and descriptive statistics for the quantitative variables are presented in Table 8. Because *authenticity* and *collaboration* were the focus of this research, the relationship between these two variables is presented in Table 9, using both the original sample and final sample of classrooms.

Table 7
Descriptive Statistics of Categorical Classroom-Level Variables

Variable	Values	Original Sample		Final Sample	
		N	Percent	N	Percent
Authenticity	1.0 – Highly school-only	14	16.9	13	16.9
	2.0 – Somewhat school-only	44	53.0	40	51.9
	3.0 – Somewhat authentic	22	26.5	21	27.3
	4.0 – Highly authentic	3	3.6	3	3.9
	Total	83	100.0	77	100.0
Collaboration	1.0 – Highly teacher-directed	27	32.5	23	29.9
	2.0 – Somewhat teacher-directed	41	49.4	39	50.6
	3.0 – Somewhat collaborative	12	14.5	12	15.6
	4.0 – Highly collaborative	3	3.6	3	3.9
	Total	83	100.0	77	100.0
ESOL	No	74	89.2	69	89.6
	Yes	9	10.8	8	10.4
	Total	83	100.0	77	100.0
ABE	No	23	27.7	22	28.6
	Yes	60	72.3	55	71.4
	Total	83	100.0	77	100.0
FamLit	No	74	89.2	68	88.3
	Yes	9	10.8	9	11.7
	Total	83	100.0	77	100.0

Table 8
Descriptive Statistics of Quantitative Classroom-Level Variables

Variable	Original Sample			Final Sample		
	N	Mean	St. Dev.	N	Mean	St. Dev.
Frequency	83	7.1	5.9	77	7.0	6.0
Authenticity	83	2.2	0.7	77	2.2	0.8
Collaboration	83	1.9	0.8	77	1.9	0.8

Table 9
Relationship Between Authenticity and Collaboration for the Final Sample; $r = 0.709$.

	Collaboration			
	Highly Teacher-Directed	Somewhat Teacher-Directed	Somewhat Collaborative	Highly Collaborative
Highly Authentic			1	2
Somewhat Authentic	1	10	9	1
Somewhat School-Only	11	27	2	
Highly School-Only	11	2		

Modeling Unconditional and Respondent-Level Model

To begin the modeling process, an "unconditional model" was estimated. In this model, only the overall mean change score (the intercept), and the variance of classroom effects were estimated. For this model, the percent of variation within and between classrooms was calculated.

Using the estimate (obtained from the unconditional model) of the variation within classrooms as a baseline comparison, a respondent-level regression model was estimated. The respondent-level predictors were entered into the respondent-level model one at a time and then together. To determine whether these predictors should remain in the model, five criteria were considered.

First, the significance level of each respondent-level predictor's regression weight was considered. When statistical significance was observed, this provided evidence that the predictor should remain in the model by showing that differing levels of the predictor predicted statistically significant differences in the outcome.

Second, the significance level of the variance of each respondent-level predictor's regression weight across classrooms was considered. When statistical

significance was observed, this also provided evidence that the predictor should stay in the model by showing that the predictor's regression weight varied in a statistically significant manner from classroom to classroom.

Third, the unique percent increase in respondent-level variation explained by each respondent-level predictor was considered. By comparing models with new predictors to the most predictive model nested within the new model, an estimate of the unique contribution of each predictor could be obtained. The nested model used for comparison always contained all predictors from the new model except the new predictor.

Fourth, the significance levels of chi-square difference statistics were considered. Each model estimated in HLM produced a measure of deviance that is distributed as a chi-square statistic with the same degrees of freedom as the number of variances estimated in the model. Similar to the third step, new models were compared with the least deviant nested model by calculating a chi-square difference statistic distributed as a chi-square with degrees of freedom equal to the difference in the degrees of freedom of the nested models. The statistical significance of this test was interpreted as the statistical importance of the unique contribution of the new predictor.

Fifth, the collinearity of each respondent-level predictor with all other predictors was examined. The standard errors of each predictor in each model were recorded and compared across all models in which they occurred. When standard errors became inflated, this was taken as a sign of collinearity with one or more of the other predictors in the model.

Modeling Classroom-Level Models

The final respondent-level model was used as a baseline comparison for models including classroom-level effects. First, a classroom-level model of the respondent-level intercept (or base model) was developed. Next, classroom-level models of the respondent-level regression slopes were investigated.

Using the estimated classroom variation in intercepts as a comparison, the base model was developed. The classroom-level predictors were entered into the classroom-level model one at a time and then together. To determine whether these predictors should remain in the model, four criteria were considered:

First, the significance level of each classroom-level predictor's regression weight was considered. When statistical significance was observed, this provided evidence that the predictor should remain in the model by showing that differing levels of the predictor predicted statistically significant differences in the outcome. Second, the unique percent increase in classroom-level variation in the intercept explained by each classroom-level predictor was considered. This criterion is analogous to the third criterion for the respondent-level model. Third, the significance levels of chi-square difference statistics were considered. This criterion is analogous to the fourth criterion for the respondent-level model. Fourth, the collinearity of each classroom-level predictor with all other predictors (at both the respondent and classroom level) was examined. This criterion is analogous to the fifth criterion for the respondent-level model. Models of the respondent-level regression slopes were developed in the same way as the base model.

Assessing the Assumptions of HLM

Four of the assumptions of HLM can be assessed directly. All other assumptions are logical exercises that must be addressed theoretically. The four assumptions that can be addressed empirically are described below. Note that all assumptions may be checked at each stage of model development, but in this case, only the final model was checked for violations of the assumptions.

The normality of the respondent-level residuals was checked by inspecting histograms and normal Q-Q plots of the respondent-level residuals. Homogeneity of the respondent-level residuals (or difference between observed and predicted values) within each of the classroom units for the difference between observed and predicted values was tested with each run of the models.

The normality of the residual variation in classroom-level prediction of respondent-level intercepts and slopes was checked individually for each intercept and slope by inspecting histograms and normal Q-Q plots of classroom level residuals. It was also checked in the multivariate by inspecting the Mahalanobis distance of the residuals of each classroom with the intercept and slope against a chi-square distribution. This was only done for classroom-level predictors that varied across classrooms, since the variance of these effects were estimated only for these variables.

Homogeneity of the residual variation in classroom-level prediction of respondent-level intercepts and slopes across all values of the classroom-level predictors was checked by inspecting scatter plots of classroom-level predicted

values versus residuals for both the intercept and the slopes being predicted. This was also only done for classroom-level predictors that varied across classrooms.

CHAPTER SIX: RESULTS

Final Model

The final respondent-level model included three respondent-level predictors: (a) literacy level of the student upon entry to the class (*LitLev*), (b) whether or not the student was in an English-for-speakers-of-other-Languages class (*ESOL*), and (c) the total number of days the student had attended the class prior to the first administration of the home literacy practices questionnaire (*Days*). These were the three participant-level variables that showed statistically significant relationships to the outcome variable of change in literacy practice. The final classroom-level model of the respondent-level intercepts included two classroom-level predictors: the degree of authenticity of materials and activities in the class (*Authenticity*) and the ABE status of the class (*ABE*). These were the two classroom-level variables that showed statistically significant relationships to change in literacy practice. No interaction terms were statistically significant either at the respondent level, the classroom level, or across levels.

The final model was estimated using the natural and log days metric, and using weighted and unweighted change scores in all combinations, producing four possible final models. Table 10 presents the parameter estimates of the HLM analyses for each of the four methods for estimating the final model.

As seen in Table 10, *LitLev* and *Days* are the most powerful predictors of change in literacy practice engagement, since they have the largest effect sizes (from $-.308$ to $-.379$ for literacy level and from $.207$ to $.309$ for days attended class). The lower the student's literacy level upon entry to the class, the more likely he/she was to report change in literacy practices. Further, the longer students had been attending their class, the more likely they would report change in their literacy practices. Both of these predictors were moderately related to change in literacy practices. The third respondent-level predictor, whether or not a student is an ESOL student, was negatively related to change in literacy practices. Regarding classroom-level effects, students who were in ABE classes, and in classes with greater degrees of authenticity of activities and materials were more likely to report change in their literacy practices. These two classroom-level predictors were moderately related to reported change in literacy practices, as indicated by their effect sizes.

Table 10
Parameter Estimates

Parameter	Log days metric						Natural days metric					
	Weighted			Unweighted			Weighted			Unweighted		
	<i>b</i> *	<i>b</i> **	<i>p</i>	<i>b</i> *	<i>b</i> **	<i>p</i>	<i>b</i> *	<i>b</i> **	<i>p</i>	<i>b</i> *	<i>b</i> **	<i>p</i>
Intercept	-.553	.043	.116	-.642	-.030	.045	.393	.043	.079	.090	.002	.770
LitLev	-.263	-.308	.000	-.354	-.415	.000	-.029	-.337	.000	-.323	-.379	.000
Days	.204	.240	.001	.262	.309	.000	.000	.207	.000	.001	.256	.000
ESOL	-.557	-.268	.000	-.565	-.271	.000	-.500	-.247	.001	-.355	-.170	.045
Authent	.204	.147	.021	.185	.134	.043	.217	.162	.009	.204	.148	.023
ABE	-	-	ns	-	-	ns	-	-	ns	.387	.169	.036

* unstandardized coefficient

** standardized coefficient (or effect size)

ns not significant

Note that the effect of ABE was statistically significant only when using unweighted change scores being predicted by the natural days metric (the least sophisticated modeling method). In addition, the significance level of ESOL varied across the four modeling methods, with increases in significance when using more sophisticated methods.

As mentioned above, HLM adjusts the degrees of freedom used to test the classroom-level effects to produce uninflated significance tests. Because of this, the effective sample size for testing those effects is the number of classrooms in the study (77). Even with this moderate sample size, the effect of classroom authenticity is statistically significant.

The residual variation between and within classrooms is estimated with each run of an HLM model. The residual variation between classrooms is tested for statistical significance with each run of an HLM model. In all methods of estimating the final model, the residual variation between classes was statistically significant, supporting the use of HLM methodology.

Table 11 presents the estimated residual within and between classroom variance components for the four models presented in Table 10. In Table 11, the variance components of the unconditional model, the base model, and the final model are presented for each of the four methods of estimating the models. These are included to allow us to interpret various representations of the percent variation

explained within and between classrooms. The variance components displayed in Table 11 are the residual variation both within and between classrooms that is unexplained by effects contained in the model. Note that the unconditional model *does* include classrooms as a random effect. This model is called the unconditional model because we didn't really care about classroom effects—we just wanted to control for them. The bottom two lines of Table 11 address the percent of residual variation unexplained by the model that occurs within and between classrooms.

Table 12 uses the information in Table 11 to calculate the percent variation explained within and between classrooms in different ways. When proceeding from the unconditional model to the base model by incorporating respondent-level variables, Table 11 shows that residual variation both within and between classrooms is reduced. This is mirrored in lines 1 and 4 of Table 12, respectively. Thus, respondent-level variables explain variation not only at the respondent level, but also at the classroom level. However, a comparison of lines 1 and 4 show that respondent-level variables were relatively weak in explaining within classroom differences, but quite powerful in explaining between classroom differences. This suggests that values of the respondent-level variables varied systematically by classroom, thus explaining some of the classroom level differences in the outcome by using classroom differences in the respondent-level predictors. To check this interpretation, a classroom-level model using classroom means of the respondent-level variables was estimated. This model provided very similar estimates of the reduction in variance both within and between classes.

Table 11
Estimated Variance Components of the Models Estimated Four Ways

Source of residual variation	Log days metric						Natural days metric					
	Weighted			Unweighted			Weighted			Unweighted		
	U [*]	B [*]	F [†]	U [*]	B [*]	F [†]	U [*]	B [*]	F [†]	U [*]	B [*]	F [†]
Respondent (within class)	0.262	0.231	0.237	0.574	0.480	0.487	0.262	0.250	0.242	0.574	0.520	0.524
Classroom (between class)	0.469	0.253	0.222	0.475	0.163	0.139	0.469	0.225	0.175	0.475	0.128	0.087
Percent within classrooms	36	48	52	55	75	78	36	53	58	55	80	86
Percent between classrooms	64	52	48	45	25	22	64	47	42	45	20	14

* Unconditional model

† base model

‡ final model

Table 12

Percent Variation Explained of Models Estimated Four Ways

# Type of variation explained	Percent variation explained			
	Log days metric		Natural days metric	
	Weighted d	Unweighted	Weighted	Unweighted
1 Unconditional variation within classrooms explained by base	12	16	4	9
2 Unconditional variation within classrooms explained by final	9	15	7	9
3 Base variation within classrooms explained by final	-3	-1	3	-1
4 Unconditional variation between classrooms explained by base	46	66	52	73
5 Unconditional variation between classrooms explained by final	53	71	63	82
6 Base variation between classrooms explained by final	12	15	22	32
7 Total unconditional variation explained by base	34	39	35	38
8 Total unconditional variation explained by final	37	40	43	42
9 Total base variation explained by final	5	3	12	6

When proceeding from the base model to the final model by incorporating classroom-level variables, Table 11 shows that the residual variation within classrooms remains essentially unchanged, but the residual variation between classrooms decreases. This is mirrored by lines 3 and 6 of Table 12, respectively. Line 6 shows that after controlling for differences in respondent-level predictors (including both individual differences and systematic classroom differences), from 12 to 32 percent of the remaining classroom variation was explained by adding *ABE* and *Authenticity* to the model. Thus, the respondent-level characteristics in this study are much more predictive of differences in the outcome than are the classroom-level characteristics in this study. In other words, literacy level of the student at entry to her class and the number of days she had attended the class were more strongly related to change in literacy practices than the degree of authenticity in the class instruction. Despite this, degree of authenticity of literacy instruction was still significantly related to change in literacy practices after controlling for these variables.

All four methods of estimating the final model satisfied all assumptions of HLM. The residuals, or differences between predicted and observed values, were approximately normally distributed, and were unrelated to the predicted values. In addition, the assumption of homoscedasticity, or equal variance with classrooms, could not be rejected.

Summary of Results

Regarding our research questions, the results show that, controlling for all other variables in the final model, the degree of authenticity in the activities and materials used in adult literacy instruction was significantly related to the likelihood that adult literacy students in those classes will report change in frequency and/or type of out-of-school literacy practices. The effect size of this relationship varied from .134 in the logdays unweighted model to .162 in the natural days weighted model. This is considered a small to moderate effect in social science research. On the other hand, there was no statistical effect of the degree of collaboration between student and teacher on reported change in literacy practices. Finally, there were no statistically significant interaction effects, meaning that all statistically significant effects were simple, easily interpretable main effects.

Beyond our research questions, the results of this analysis provide further insights into the dynamics of literacy practice change. Students were more likely to indicate changes in their literacy practices if they attended ABE classes. On an individual level, the lower a student's literacy level when beginning an adult literacy class and the longer the student had been attending the class, the more likely the student would report change in literacy practices. Finally, ESOL students were less likely to report literacy practice change.

CHAPTER SEVEN: DISCUSSION

Limitations

This study represents the first time anyone has attempted to examine literacy practice as an outcome of different forms of instruction with the adult basic education population. All of the difficulties of conducting systematic empirical research with adult education students also plagued this study, and the limitations thus produced must be acknowledged. First of all, all of the participants -- teachers/classes and students -- were volunteers and not randomly selected.⁷ Thus we cannot claim true representation.

Mitigating this, however, is the fact that the pattern of class types, considering the two dimensions of authenticity and collaboration, is remarkably similar to that found with the earlier typology study (Purcell-Gates, Degener, & Jacobson, 1998) which, while also relying on a volunteer sample, included many more programs. We worked very hard to locate more classes in the authentic/collaborative quadrant to better answer our research question but were ultimately unsuccessful. Often classes would "sound" collaborative, only to prove not so after direct observation and teacher and student interviews.

A more serious threat to the issue of representation lies in the volunteer nature of the student participant pool. We acknowledge that students who are willing to accept researchers into their homes and to take the considerable time necessary to respond to the questionnaire items may very well be more motivated and involved in their literacy learning than those who are not. We take comfort in the fact, however, that these behavioral tendencies did not seem to be related to the type of classes in which they were participating, thus posing a reduced risk to interpretation of the results.

Readers must remember that this study was correlational and not experimental. Thus, we do not claim a firm statistical causal connection between particular types of literacy instruction and changes in literacy practices. However, because we controlled for all other influencing factors identified in the data, we can conclude tentative causality based on the logic of causal-comparative research

⁷ Most of the surveys were sent to randomly selected programs, though the decision to respond was voluntary.

(Hittleman & Simon, 1997). We believe that this type of design is close to being the best that researchers can do with this population of adult learners. Good experimentation requires random selection of program and random assignment of student to program. Adult students vary widely in their decisions to participate in adult education, how long to participate, motivations for participation, and so on. This variability reflects the diverse personalities, histories, life trajectories, and so on of adult students. It would be difficult, and probably impossible, to conduct a good experimental study within this context with a high enough *N* to produce valid and reliable results.

Dimension of Student/Teacher Collaboration

We failed to find an effect on literacy practice change of the degree to which students and teachers shared power in decision-making as regards curriculum and program governance. Although the logic of the hypothesis still holds – that students will engage in literacy more in their lives if they can truly influence what they learn to read and write in school – we could not detect a relationship. This could very well be the result of the way we operationalized and documented this dimension. It could also be that the operative elements of this dimension cannot be measured in the ways we undertook. Clearly, one of the aspects of a dialogic relationship between teacher and student is affective in nature. While this could, and should, affect change in literacy practices in the long run, perhaps the best way to document this aspect is through ethnographic methods such as those conducted in the Purcell-Gates and Waterman (2000) study. Of course, it is also possible that there is no effect on literacy practice change of this dimension, and that our finding of no relationship is a significant one in that sense. This would not be to say that dialogic relationships between students and teachers are not worthy of striving for. Rather that one of the outcomes is not literacy practice change.

Factors Related to Change in Literacy Practice

Individual Student-Level Factors

The results of our analysis provide some very real insights into the different instructional factors that are related to change in literacy practices by adult literacy students. Not surprisingly, but previously undocumented, are the relationships between individual student factors and literacy practice change. The factor with the strongest relationship to literacy practice change was that of the student's literacy level at the time he/she began attending the literacy class. This makes sense in that the degree to which a student can read would naturally affect the types of things

he/she will read or the frequency of reading and writing events in that student's life. So, we see what we would expect: greater impact as regards change in literacy practices on those students who begin with lower levels of reading ability, regardless of instructional factors.

Related to this logic, we find that the second strongest determinant of literacy practice change is the amount of time a student has spent in a literacy class. The more time a student has to increase his/her reading ability, the more one is likely to see changes in what types of texts and/or how often that student reads and writes in life outside of the classroom. This finding lends added significance to efforts to increase students' persistence in attending adult literacy classes (see NCSALL Report # 12 by Comings, Parrella, & Soricone, December, 1999). Clearly if we can find ways to make it possible and attractive for students to stay in classes, despite their pressing life-responsibilities and their low self-esteem as previous school failures, we can expect to see significant outcomes that accrue from these adults entering the literate world as readers and writers – benefits that go beyond the individual but also affect future generations, as we discuss below.

Finally, the less-clear negative impact on literacy practice change of being an ESOL learner is also interesting. As a result of our ongoing struggle over the course of data collection with obtaining useable data from ESOL students, we gained some real insights into perceptions of ESOL adult literacy students both by practitioners and by the students, themselves.

First of all, a fascinating phenomenon emerged over the course of the study which can perhaps be described as a confusion, or blindness, which seems to equate ESOL status and literate status in the minds of many, particularly teachers. By this we mean that many teachers when asked if certain students were "nonliterate," "somewhat literate," or "highly literate," would answer for ESOL students as if the question were being asked about being literate in English. Remember that we were limiting our student sample to those adults who were working to improve their literacy skills/levels and we wanted to exclude adults who would be literate to at least a high school level. Therefore, we needed to know the literate status of the student volunteers before we included them in the participant pool, and we relied on teachers a great deal for this information. The confusion on the teacher's part of literate status and English literate status resulted in countless episodes where we had to drop certain ESOL participants when we ultimately learned that they were very literate in their native language and engaged in wide and frequent literacy practices in that language in their countries of origin.

Added to this difficulty was the fact that the ESOL students, themselves, perhaps due to the attitudes of the American teachers toward their native literacy status, often described themselves as non- or low literate when in fact they meant they could not read English very well. For many it almost appeared as if they had left their native language literacy behind when they left their countries of origin and began again as new-born nonliterate persons. Many of the ESOL participants refused to even discuss what texts they read and wrote in their native language, even when it was apparent that we were counting those with the dual-language questionnaire items. Others would provide answers to some items as it pertained to their native literacy practices and not others. As described above, all of this resulted in our inability to use their questionnaire data for the larger data pool on which we conducted the analysis.

Whether the resultant loss of participants and missing data contributed to the negative finding regarding ESOL status on our research questions is impossible to say. Regardless, this finding meant that ESOL students showed fewer changes in literacy practices after beginning their ESOL literacy classes than non-ESOL students. This could mean that, for those ESOL students who remained in the data pool – i.e., answered questions about their native literacy practices and who were not judged (known by the teacher) to be highly literate in their native language – already engaged frequently in many different types of literacy practices before they began trying to learn to read and write English. However, it is necessary that one remembers that this result is based on only a few of the many ESOL literacy students in U.S. adult programs. All of the difficulties inherent in getting this ESOL data renders this finding of questionable generalizability.

Classroom-level Factors

The results of this study suggest that the literacy practices of adults can change -- in nature and/or in frequency -- in response to adult literacy instruction that is reflective of real-life literacy practices. This finding is significant on two levels: First, this is the first time that research has documented this for outside-of-school contexts, despite the widespread belief among academics that this type of instruction is "best practice" and despite the considerable lip-service given to this principle by practitioners. It is important to have solid documentation for instructional beliefs to withstand the inevitable shifts in the political and policy winds that are always just around the corner.

Secondly, this result is significant because it demonstrates that despite the growing Back-to-Basics rhetoric, involving students in real life/authentic literacy

activities in the classroom is significantly more related to growth and development of literacy practices than decontextualized skill work. Since this study controlled for the literacy level of students, it also suggests that there is no threshold at which this type of practice is inappropriate (see Freire, 1993).

Changing the Cycle of Literacy Culture

The significance of these results, however, goes beyond the confirmation of hypotheses. These results suggest, empirically for the first time, a clear path that we can take to change the cycle of literacy culture. As this cycle includes children and the ease with which they can learn to read and write in school, this has incredibly important, intergenerational implications.

This study was framed by the emergent and family literacy research that has documented repeatedly that children's emergent literacy knowledge is formed in response to the literacy cultures in which they grow up during their pre-formal-instruction years. Further, the nature and level of this emergent literacy knowledge is clearly related to children's success in learning to read and write in school. Thus, it stands to reason that changing the nature of the literacy cultures in which children grow up will change the nature of their emergent literacy knowledge, which, in turn, will affect the degree of success they meet in school. Previous research has documented that children's emergent literacy knowledge is differentially related to different aspects of their home literacy cultures (Purcell-Gates, 1996). We will examine how these different aspects of literacy culture appear to be affected by instruction that is more real-life and authentic and the implications that those changes would have for children.

Frequency of Literacy Events

Earlier studies have documented that simply counting the number of times someone in the home reads or writes anything will predict the degree to which young children in that home know that print is meaningful and that it functions purposively in people's lives (Purcell-Gates, 1996; Purcell-Gates & Dahl, 1991). This concept is considered the very basic one for literacy development, and Purcell-Gates and Dahl, who termed it "The Big Picture," found that the degree to which children possessed this at the start of kindergarten significantly predicted both their degree of success at reading and writing at the end of first grade and the effective path they would take as they learned to read and write in the context of formal, skills-based instruction. Purcell-Gates (1995), in a close ethnography of one child from a nonliterate family, added to this picture by providing detailed description of how the lack of this concept prevented the child from learning to read in school. In all of these studies, children who grew up in homes where people did relatively little reading and writing were at a considerable disadvantage when they began formal literacy instruction. The present study, though, documents that adults who engage in real-life/authentic literacy activities in their adult education classes increase the number of literacy events in which they engage in their out-of-school lives. This would be an important change in the literacy culture cycle.

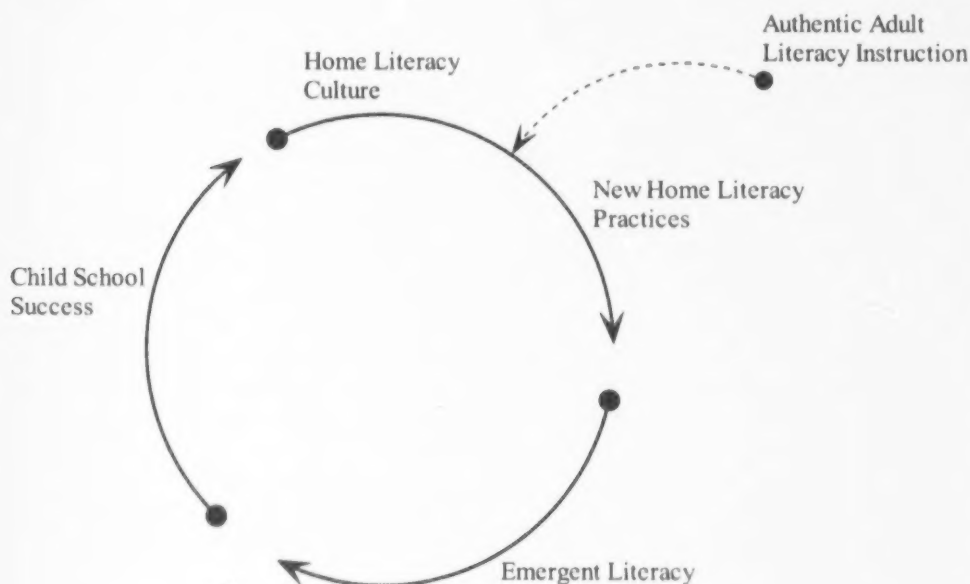
Nature of Texts Read and Written

The study of emergent literacy development in the context of naturally occurring literacy practices in homes and communities (Purcell-Gates, 1996) also found that children's knowledge of key concepts of written language were related, not only to being read to, but also to the types of texts others in their homes read and wrote. The higher the level of discourse involved in these literacy practices, in terms of their degrees of "writtenness" (Chafe & Danielewicz, 1986), the higher the emergent literacy scores for children in these homes. Discourse is more written (as compared to oral) if its syntax is more integrated and dense, its vocabulary is more "literary" (and less frequent), and the distance created rhetorically between reader and writer is greater. In the 1996 study, this higher level of discourse was represented by texts such as novels, essays, magazine articles, and newspaper stories. The lower levels of discourse were represented by text consisting solely of words and clauses like that on coupons or food packaging and in comics.

The scaling of the literacy practices that underwent change in this current study contributes to our understanding of the significance of the results. This scale allows us to identify the types of practices that underwent the greater frequencies of

change among the participants and those that reflected fewer reported changes. As we see in Table 4 in Chapter 5, the two practices that were affected most by the changes that occurred in literacy use by the participants were reading essays, compositions, and text for information (i.e., expository text) and reading books and stories (i.e. fiction). These types of texts contain discourse at the greatest levels of "writtenness" as defined and operationalized in the Purcell-Gates (1996) study of emergent literacy and home literacy practices. The following chain of inference can be made: a positive change in frequency of literacy events in the home that involve higher levels of discourse predicts higher emergent literacy scores for children in those homes and positive change in frequency of higher discourse literacy events is predicted by participation by adults in literacy classes that include real-life literacy texts and activities. Thus, we can see another important alteration in the literacy culture cycle. Figure 4 depicts this altered cycle as we interpret the data and the results of this study.

Figure 4. The home literacy culture/school literacy success cycle as affected by authentic adult literacy instruction.



Implications for Further Research

Clearly, the next step for researchers is to examine this inferred altered cycle of intergenerational literacy more directly. This would involve a large longitudinal study. First, researchers would need to document a large number of adult ABE literacy classes, with the same triangulated procedures we used for this study, to obtain a pool of classes with a spread of degree to which authenticity is descriptive of the activities and texts. Next, from these classes, students beginning instruction who have young (ages 3-5) children in the home would be recruited. These students would need to provide data, via a version of the home literacy practices questionnaire, across time to document changes in literacy practices. At the same time, the children in each family would be tested for emergent literacy knowledge across time points, up to the time they ended kindergarten. They then would be tested at least three times per year on reading and writing ability through third grade. At this point, using growth modeling as an analytic method, one could test the hypothesis inherent in the altered literacy culture cycle: Children with parents who attend classes with a higher degree of authenticity in the activities and texts will acquire greater levels of emergent literacy knowledge as a result of increases in the frequencies and types of literacy practices the parents engage in and, as a result, these children will learn to read and write at higher levels than they would have when they begin formal literacy instruction in school.

On another note, we acknowledge that focusing on specific texts written and/or read is only one way of studying the actualization of literacy instruction and that literacy practice change as seen through text types is undoubtedly not the only outcome of instructional dimensions like authenticity and collaboration. One obvious avenue to pursue is that of affective change, particularly in the students' self-esteem and identity, as related to different types of adult education instruction. We take this topic up as it related to the merging of research lenses again at the conclusion of Chapter 8.

CHAPTER EIGHT: STUDENTS' PERCEPTIONS OF LIFE AND LITERACY CHANGES

Secondary Qualitative Analysis

The primary objective, and ensuing design, of this study was to empirically explore the claim that adult literacy instruction that was more authentic and collaborative would positively impact change in adult students' out-of-school literacy practices. The quantitative analysis, just described, served this end. However, in the course of the coding phase of the analysis, it became increasingly obvious to us that, despite what results would accrue from the quantitative analysis, the participants, themselves, were attributing change in literacy practice to factors other than dimensions of their adult literacy instruction. Although they all seemed to accept our apparent presupposition that the topic of literacy practices was connected in some way to the fact that they were attending literacy classes, few of them explicitly contextualized any reading and writing they did in the past, currently engaged in more frequently, or did for the first time with the dimensions of authenticity or collaboration in classroom experiences. Rather, whenever they did provide context for these literacy practice changes, it was more often reflective of life experiences. In other words, their comments regarding literacy practice change, as captured by the data collectors on the questionnaires, reflected the socially embedded nature of literacy commented upon by Street (1989) and Barton (1998), among others. Wishing to capture this, we initiated an additional analysis, one that was qualitative in nature.

The data for this qualitative analysis came from the home literacy practices questionnaire. Recall that the questionnaires included space for recording comments made spontaneously by participants in response to each of the questions about their literacy practices (e.g., "have you ever read a menu?"). In many cases, the recorded responses involved unelaborated chronological data (e.g., "Began in 1983"). However, a large number of completed questionnaires contained more elaborated comments. These comments were sometimes direct quotes from participants (e.g., "When I got my first job" in response to the question about when the participant began a certain practice). More often, these comments were data collectors' summaries of students' comments (e.g., "J ____ began practice 6 years ago when her husband wanted to go out to eat."). These two types of responses made up the data for the qualitative analysis. The research question for this analysis was: To what do adult literacy students spontaneously attribute their literacy changes?

Data Collection

The home literacy practices questionnaires of the 173 study participants (a total of 321 questionnaires) were divided and analyzed by four research assistants, who looked for elaborated information regarding changes in participants' literacy practices. Comments were treated as data for this analysis only if they provided additional information not captured by the quantitative analysis of the questionnaires. For example, the comment "Reads menus more frequently now" would not have been included in the database since this information would have been captured by the yes/no question, "Do you think you've read any of these items more often since you began attending your literacy class?" However, if a specific reason was given for the change in frequency, such as getting a new job or going out to eat more often, the comment was recorded.

Types of changes in literacy practice that were included in this analysis included: (a) increase in frequency of literacy practice; (b) decrease in frequency of literacy practice; (c) initiation of a new practice; (d) cessation of a literacy practice. Note that this differs somewhat from the operationalization of "change" used for the quantitative analysis. For that analysis, we were only interested in the construct of increase of literacy practice, both in frequency within practice and in new types of practices. However, for this analysis, we wished to explore the ways in which, as perceived by the participants, life events contextualized changes in reading and writing – both as increases in practice(s) or as decrease in practice(s). Further, for this analysis, we included all changes mentioned by the participant, regardless of when they occurred, i.e., we did not limit our analysis to those changes that occurred after the student began the class they were currently attending. For ESOL students, a language shift regarding an existing literacy practice was not coded as a change in practice (e.g., when a student stopped reading menus in Spanish and began reading them in English, after moving to the United States).⁸ Also, as for the quantitative analysis, the data related to literacy with children was not included.

Of the 173 participants whose questionnaire responses were considered for this qualitative analysis, 117 had comments recorded that provided additional insight into their literacy changes. The questionnaires of the 56 participants that were not considered for this analysis either had no comments filled in at all, had comments that did not expand on the information captured by the quantitative analysis, or had

⁸ Clearly, moving to an English-speaking country constitutes a major life event that contextualizes change to an English-language literacy practice. However, as with the quantitative analysis, we were only interested in this study with literacy practice change, not the language of the literacy practice.

comments that did not account for changes in literacy practices. It must be noted that it was up to each individual data collector to decide which comments should be recorded and whether or not to record comments at all. Therefore, one cannot conclude that the 56 participants whose questionnaires were not used for this analysis did not share their thoughts about their changes in literacy practices. It may simply be that their comments were not recorded.

Responses regarding changes in literacy practices from the 117 participants were entered into a Microsoft Access database. The following information was collected for each piece of data: (a) Subject ID; (b) Class type; (c) ESOL status; (d) Date student began current class; (e) Other adult programs student has enrolled in; (f) Student goals for joining; (g) description of interview setting; (h) Literacy practice (question number); (g) Frequency of literacy practice; (h) Comments made by the student; (i) Was change before or after class?

After all of this data from the questionnaires had been entered into the database, one of the research assistants analyzed approximately one-half of it, creating a preliminary list of eight codes to be used to categorize the data. Two other research assistants then reviewed all of the data to refine and augment the initial codes. They independently created a list of codes and then compared and discussed their lists. Initially, they agreed on 12 codes. When their codes varied, they discussed and resolved the differences. In the process, seven of the original eight codes were retained, one was dropped, and ten new codes were added. The same two research assistants then read through the database again, this time using the new codes to categorize the data. The database was reorganized, categorized according to each of the 17 codes, and entered into a new Access database. To check for coding errors, the two research assistants read through each other's data sets to ensure that the data in each category had been coded and sorted correctly. Based on these re-readings, four items were removed from one category and placed in another. Once the database was ascertained to be complete and accurate, frequencies and totals were run.

Results

The results of this analysis reveal a range of life changes that carried with them changes in the types and frequencies of literacy practices in which the literacy students in this participant pool engaged. Table 13 displays the categories of change and the frequencies with which they were cited by the participants. Following, we briefly discuss each category and provide example comments that exemplify the ways in which literacy practices reflected the lives of the participants at given

moments in time. The categories are not exclusive and some clearly overlap, such as child-related changes and changes in family situation.

Table 13

Life Changes Related to Literacy Practice Changes by Adult Literacy Students; $N = 117$

Type of Life Change	<i>n</i>	% of Total
Employment	40	34
Schooling	32	27
Living Situation	23	20
Child-Related	22	19
Family Situation	22	19
Marital/Relationship Status	22	19
Location	19	16
Student's Health	17	15
Leisure Activities	16	14
Finances	13	11
Technology	10	9
Driving a Car	10	9
Religious Practices	9	8
Non-School Literacy Support	7	6
Needs or Interests	6	5
Family Member's Health	4	3
Citizenship Status	2	2

Literacy Practice Change Related to Employment

In a literate culture such as this one, almost all jobs require some type of reading and/or writing, and the participant comments reflected this influence on their literacy practices. Often specific jobs brought with them specific literacy tasks, and many of the participants began reading certain types of tasks at the point they began new jobs. Conversely, participants reported that they stopped reading and writing specific types of texts when they quit the jobs that required them. For example, reading instructions was commonly required with the types of jobs the literacy students in this study occupied. Another common practice tied to employment was that of reading and writing notes and memos to other employees or to themselves while on the job. Other types of texts often mentioned within this category included schedules/guides, incident reports, phone books, and print on envelopes. Several participants reported beginning the practice of creating and using personal appointment and phone books once they started working. Time-management seemed

to be the motivating factor for this as well as the fact that employment usually meant they were outside of the home and, thus, needed to carry the phone numbers of important people in their lives with them.

The reading of particularly complex texts was often related to job requirements. One 51-year-old man who had only finished 6th grade, worked part-time managing the apartments in which he and his family lived. This position required that he not only read applications from people wanting an apartment but also that he read, and understand, apartment leases – a text we considered a “document.” He only began this type of reading when he took on the job of apartment manager.

Seeking a new job also brought with it new literacy practices such as reading and filling in job applications, reading notices of job openings, reading phone books to call prospective employers, and so on. Once employment was obtained, these practices – particularly those involving applications – often ceased, and if the participant did not find herself on the job market again, may never have begun again.

At times, literacy practices were reported as peripherally related to employment. There was the case, for example, where a 34-year-old Guatemalan woman reported first reading comics and cartoons during her tenure as a live-in maid. The home contained magazines with comics and cartoons that she would read on occasion. She said that she stopped this type of reading when she left that job. Another Guatemalan immigrant reported that she stopped reading so much print on home entertainment products (e.g., videos) when she started working, citing the lack of time (for, presumably, engaging in watching videos and TV at home). Other participants reported new reading and writing practices related to the money they earned involving texts like paychecks, bank statements, deposit forms, receipts, etc.

Schooling Brings Changes in Literacy Practices

Another life-change that contextualized literacy practice change for our participants was that of attending an adult literacy class. Twenty-seven percent of the participants in this analysis cited this as explanatory for a specific change in literacy practice. For the most part, this change involved either increase in frequency for the practice or the initiation of a new one. Rarely did students report stopping a practice once they began attending a literacy class. However, they did report stopping certain practices at the conclusion of a class.

The two main factors involved in this school-practice change relationship were (a) increase in literacy ability; and (b) text types encountered in school activities that were apparently not part of their lives before attending the class. Other factors included time-management texts such as personal calendars that became necessary once students added school to their regular activities as well as the introduction to U.S.-culturally specific literacy texts and practices encountered by previously low- or nonliterate immigrants.

Many of the respondents in this category gave evidence that their increasing ability to read and write, as a result of attending an adult literacy class, accounted for their adoption of new "everyday" literacy activities. They cited their newly acquired abilities to read ads, coupons, flyers, directions, menus, phone books, schedules, guides, money orders, gift certificates, labels, song lyrics, signs, and tickets. Clearly, all of these students began adult education with very low literacy levels, and many of them were recent immigrants from countries and life situations where they had no opportunity to attend school. It was within this last group of respondents where we saw evidence of new literacy practices tied, not only to learning to read and write, but also to encountering texts for the first time -- texts that did not exist in their prior lives and cultural contexts. For example, many recent immigrants from El Salvador and Guatemala had grown up in rural, poor, and marginalized communities where such texts as written recipes or classified ads simply did not exist. As these students became literate in English, they turned to these texts as the needs and opportunities to use them arose.

Attendance at adult literacy classes not only brought increased literacy abilities but also exposure to more complex 'school-like' texts like novels, poetry, journals, and essays. The comments by participants indicated that they began reading and writing these types of texts -- for the first time, again, or more frequently -- because they were assigned in class. There was the very strong suggestion that if the students had not been assigned these texts (i.e., had not attended the class), they would not have engaged in the literacy practices involved in reading and writing them. However, while some students indicated that they had stopped certain of these types of practices once a particular class ended, several others said that they started, for example, writing in a journal as the result of a class but had continued on their own after the class had ended or a literacy practice was no longer assigned.

Some students also reported beginning an everyday-type of literacy practice in class which then became a part of their life. For example, one student who had dropped out of school after 7th grade first encountered store flyers and advertisements in her literacy class. At the time of her interview she reported reading these texts for

her own purposes on a weekly basis. Another student, who also had left school after completing 7th grade, reported reading directions for the first time after she read directions for operating a computer in her class. She added that she continues to read all kinds of directions now on a frequent basis.

Changes in Living Situations

Becoming independent, whether this meant moving into an apartment or house on one's own, or taking a job, was a major impetus for new literacy practices for our participants. Moving into a new living space involved reading ads for housing prior to moving and reading documents such as leases or mortgages at the time of moving. One student began reading documents at the age of 16 when he first had to sign a lease of his own. He continues this practice, reading leases at least twice a year.

Becoming independent also meant reading and writing for oneself such texts as bills, bank statements, paychecks, and receipts. These literacy practices often started when students began new jobs and/or moved away from family or group-support living situations, i.e, when they had to do them for themselves. Other literacy practices that participants tied to changed living situations that resulted in increased independence included reading schedules and guides, reading and writing names and addresses, reading container text like medicine bottles and lotions, and reading labels and titles of household items like toys, books, articles, magazines, and newspapers.

Changes in Family Roles and Responsibilities

By far, the bulk of the reported literacy practice changes that participants tied to family changes involved children in some way. Many literacy practices were initiated at the birth of children and a few were dropped. Students reported beginning to read print on food containers purchased for their children, bills and receipts, ads, coupons, and flyers, leases for apartments, health-related posters, labels and names of toys, print on envelopes, books and encyclopedias, stories and poetry, forms and applications, and instructions following the birth of their first children. Similarly, the birth of a child brought with it new writing practices. Students began writing personal letters to family members after they had children. They started writing lists of responsibilities for their children, filling out forms related to public assistance for their children, and keeping calendars and appointment books for the first time for time management purposes as well as to keep track of their children's appointments with health care workers, friends, and childcare providers.

Some literacy practices stopped at the birth of children. If parents left jobs, then the reading and writing they were doing at work ceased while new, child and home-focused practices began or increased. One woman reported that she stopped reading stories and poetry, a literacy practice she had engaged in for 12 years, when her daughter was born. One can only speculate that this mother of a two-year-old could no longer find the time or energy for this type of reading.

The onset of schooling also brought with it the reading of school communications, schedules, and menus for the parents in this pool of participants. The need to communicate with teachers also resulted in the onset of note writing to school personnel. These types of literacy practices were always reported as stopped if the children were no longer in school. Also, one woman reported that she stopped reading school communications and information when she lost custody of her children.

Other changes in family situations aside from those related to children were also reported as contextualizing changes in literacy practices. One man reported that he stopped reading bills, writing checks, and dealing with bank statements after his wife took over these responsibilities six years before. Often, students would report beginning the practice of writing messages on greeting cards, captions on photos, or personal letters when members of their family moved away. Another woman reported an increase in the frequency with which she read signs since her daughter moved and she was doing more of her own driving. An older student who had completed 8th grade and who was enrolled in a family literacy program reported reading documents for the first time when her adoption of her grandchildren was in progress. She has continued to read the documents giving her parental rights to "reassure herself that the adoption ... is final and to feel good about having gotten them." Increased responsibility for family members for several of the participants resulted in the new practices of reading medicine/prescription bottles, tickets, print on envelopes, ads and coupons, and reading and writing postal letters.

Changes in Relationships Bring Changes in Literacy Practices

Like the birth of a first child, getting married seemed to be a watershed event for our participants when they reported literacy practice change, particularly the beginning of a practice. There was a sense of attained independence and responsibility, doing for oneself and another, that seemed to explain their connecting certain new literacy practices to the act of getting married. For example, students reported beginning the following practices at the time they got married: reading bills,

paychecks, receipts, and bank statements, reading print on medicine bottles, lotions, and other personal items, reading directions that go with appliances, reading family histories, reading at home for a job, reading labels on household items, reading menus, reading messages and notes, reading phone books and yellow pages, reading print on envelopes, reading periodicals, reading books and encyclopedias, reading schedules and guides, reading the lyrics in hymnals, reading print on food containers, reading print on home entertainment objects, writing names and addresses, writing checks and money orders, filling out forms and applications, writing lists, and reading apartment leases.

Divorce or the death of a spouse or live-in partner also was mentioned as contextualizing some of these practices. Reading documents was often mentioned as beginning and ending with the divorce process. Increased independence and responsibility following the loss of a partner also appeared in reports of first-time writing of checks, reading directions, and schedules and guides.

Some literacy practices were stopped when relationships changed. One man reported that he stopped writing checks and money orders when he got married as his wife took on those responsibilities. His wife had recently left him, and he reported that the bills were no longer being paid as he does not engage in this type of practice. This same man said that he also stopped writing postal letters when he got married, with no further explanation. Perhaps his wife took over this type of writing as well. A woman who had completed 7th grade, had been in the habit of painting and writing captions to accompany her pictures. However, she stopped painting when her husband died and, thus, the caption-writing ceased also. Another woman stopped reading lottery tickets when she stopped purchasing them when her husband died.

One woman's experiences with reading menus perhaps captures the effect of changing relationship status on literacy practice. She reported that she first began reading menus when her first husband died. He did not like to go out to eat, so the need/opportunity to read menus had never arisen before. After he died, she began to go to restaurants, a practice she enjoyed. However, the frequency with which she reads menus is decreasing since she began a new relationship with a man who, also, prefers to eat at home.

Change in Location/Changes in Literacy Practices

Moving to a new geographical location brings with it literacy practice change related to local contexts that tie to literacy practices. This was especially true for

immigrants to the U.S., but several native-born participants also experienced literacy practice change in the context of a change in geographical location. Virtually all of the new literacy practices reported by immigrants reflected new textual sources and purposes that were not present for them in their countries of origin. These included ads and coupons, bills, bank statements, and paychecks, print on medicine bottles, personal items, and food containers, calendars and appointment books, captions, tickets, menus, signs, schedules and guides, print on home entertainment item, forms and applications, documents, phonebooks/yellow pages, and notes to schools or teachers. In addition, the need to maintain relationships with those left behind seemed to dictate first uses of personal letters, their envelopes, messages, and greeting cards by immigrant participants.

A few literacy practices were stopped upon moving to the United States. One 19-year-old Guatemalan woman stopped reading religious writing because she stopped attending mass when she immigrated. Another woman stopped buying and reading lottery tickets when she left El Salvador. She also stopped reading magazines when she came to the U.S. where she no longer purchased them.

Changes in location within the U.S. also contextualized literacy practice change for native-born students. One woman with reported learning disabilities reported that she quit reading the guide to television shows when she moved from Texas to Vermont. There were more channels available to her in Texas so reading the guide was seen as necessary or helpful. However, in Vermont she does not need a guide to choose among the few channels. Several students reported writing personal letters to family members for the first time when brothers or sisters moved far away. Finally, a move to a town was cited as beginning the practice of reading menus for one woman who had completed 7th grade.

Health and Literacy Change Relationships

Changes in the health of the students or their family members was often cited in relationship to a change in literacy practice. A common change reported was the beginning of or increase in reading associated with medicines – print on medicine bottles, prescriptions, and directions from doctors. Another relationship between health and literacy was involved in the need to read the print on food containers for the first time as part of the vigilance required in managing a chronic illness like diabetes. Several people reported increased reading of books and stories as connected to an illness, presumably due to increased time available for such leisure activities. One woman reported that she read road signs more following a car accident in which her son was injured. Medical reference books were discovered and

read by people who wished to avoid the cost of a doctor, and personal calendars and appointment books were begun following a health change that necessitated repeated doctor visits.

Several participants reported stopping a literacy practice because of the onset of a health problem. One woman said that she no longer read the newspaper because of failing eyesight. Another woman said that problems with her eyes related to her diabetes caused her to stop reading as much as she used to.

Changes in Literacy-Related Leisure Activities

Literacy practices were begun, increased, or stopped as participants took up different social activities and dropped others. The buying of lottery tickets brought with it the reading of the print on them. When participants stopped buying the tickets, they stopped this literacy practice. The activity of writing to family members was sometimes temporary and this literacy practice thus waxed and waned. Several students began keeping personal journals and writing reflective pieces, often after being introduced to the practice in school. Sometimes, they would stop for periods of time and fill their days with other activities. One woman reported increased menu reading as she and her friends increased the amount of time they spent going out for lunch. This activity was relatively new to this participant and began when she started living alone and not cooking for herself. Song lyrics were read increasingly according to the take-up of activities in which songs were sung. These activities would often change and thus the literacy practice of reading song lyrics would decrease.

Financial Practice Change

Changes in the finances of our participants brought with them changes in their literacy practices. When participants had increased income, they opened bank accounts and thus read and wrote checks, deposit slips, and bank statements. When they lost jobs, they often closed bank accounts and stopped, or decreased, this type of reading and writing. When their finances increased, they could buy items like appliances and thus would read, often for the first time, the directions that came with them. Increased income also meant money for tickets to ball games or shows and the reading of these tickets. The loss of income meant the inability to buy such tickets, thus the stopping of that literacy practice. One woman stopped buying and writing on greeting cards when she lost her job and had to cut back on personal expenses. Ads for apartments were read when participants found themselves in need of cheaper living quarters. Job applications were filled out when finances dictated the need for

more income. Finally, one man began receiving personal letters from an aunt when he inherited his house. This constituted an increase in this type of reading for him.

Other Changes/Other Literacy Practice Changes

The remaining categories of life changes cited by the participants in relationship to literacy practice change reflect this same connection between social activity and reading and writing. Increased or new reading of phone books/yellow pages or print on home entertainment items accompanied the purchase of phones or video players. The purchase of televisions brought the new practice of reading a television guide. Directions and signs were read with increased frequency when participants began driving cars. One woman began reading labels on items in the grocery store when she first obtained her driver's license and was able to drive herself to a store. New or increased practices of reading religious writing and hymn lyrics came when participants began attending church services. Conversely, they stopped when other participants stopped attending church. Several participants reported beginning new literacy practices when they began receiving help from family members or good friends. For example, one woman started reading bills and bank statements when her father sat her down and did this with her. Others reported receiving help reading maps or ads and writing letters and notes from boyfriends or husbands. Access to, or loss of access to, the Internet brought with it concomitant reading practice changes. Finally, several of our immigrant participants reported reading documents for the first time as part of the process of obtaining U.S. citizenship.

Discussion

This analysis of participants' spontaneously offered and captured attributions of change in literacy practices both illustrates the validity of a social practice frame for literacy (Barton & Hamilton, 1998) and contributes to this and other theories of situated learning and cognition (Bakhtin, 1981; Gee, 1992; Vygotsky, 1978). Barton and Hamilton (pg. 7), in explicating the theoretical frame of literacy as social practice, assert that:

- Literacy is best understood as a set of social practices; these can be inferred from events which are mediated by written texts.
- Literacies are associated with different domains of life.
- Literacy practices are patterned by social institutions and power relationships, and some literacies become more dominant, visible and influential than others.
- Literacy practices are purposeful and embedded in broader social goals and cultural practices.

- Literacy is historically situated.
- Literacy practices change, and new ones are frequently acquired through processes of informal learning and sense making.

As just demonstrated through this analysis, the participants in this study situated their changes in literacy practice within their daily lives. As events changed, as their roles changed, as their finances changed, as their living situations changed, and their interests and activities changed, so changed their literacy practices. Texts and purposes for reading and writing those texts were taken up, engaged in with greater or lesser frequencies, or dropped as part of the ongoing evolutions of the participants' lives in which, according to their own perceptions and reports, literacy was woven throughout, mediating their social activities, both personal and communal. As Barton and Hamilton state, "People are active in what they do, and literacy practices are purposeful and embedded in broader social goals and cultural practices" (1998, pg. 11).

Barton and Hamilton (1998) describe the ways that different literacies are associated with different domains of life and our data certainly demonstrate this. Domains are defined by Barton and Hamilton as places where activity is structured and defined, like home, work-place, school, church, and so on. We saw through our data how change within these domains brought about change in literacy practices. When participants started attending church, for example, they took up the texts and literacy practices associated with that church; when they stopped attending church, they dropped those practices. When children entered the lives of the participants, changing the nature of activity in their homes, new texts were written and read for new purposes associated with children. New work places brought new literacy practices, and changed relationships brought change in literacy practices.

The social theory of literacy practice asserts the relationship between networks and roles and literacy activity. Networks are defined as describing how people relate within social groups, and within such networks, people take on specific roles and assert different identities. We certainly saw throughout our data how change in roles affected change in literacy practices. When roles like husband, wife, mother, student, worker shifted, so did literacy practices.

It must be pointed out that this does not mean that literacy practice follows social activity in some sort of passive way. On the contrary, we saw many instances where the actual acquisition of literacy brought about life/social activity change. Many of our participants reported first reading a multitude of everyday texts like signs, labels, ads, etc. for the first time, and thus participating differently in society,

as the result of learning to read or to read better in an adult literacy class. So literacy both changes people's lives and reflects change in people's lives. Indeed, this fact justifies the taking of a life history approach to the study of embodied literacy practice, according to Barton and Hamilton (1998, pg. 12):

...people use literacy to make changes in their lives; literacy changes people and people find themselves in the contemporary world of changing literacy practices. The literacy practices an individual engages with change across their lifetime, as a result of changing demands, available resources and people's interests.

Bringing Together Research Lenses

The participants of this study, in offering their own descriptions of the contexts for their reported literacy practice changes, provide a participant-perspective, or phenomenological, lens into literacy practice change. Again, they very rarely referred to aspects of their adult literacy instruction when offering these contexts of change—the focus of the quantitative, causal-correlational part of the study. When they did refer to their adult literacy classes in relationship to literacy practice change, it was to the straightforward fact that they learned to read and write in class and then they could begin to read and write texts or their own purposes in their lives outside of class. So we have two very different ways of looking at the relationships between adult literacy instruction and literacy practice change.

This does not negate the results of either analysis, in our view. First of all, the study was designed to examine the relationship between the two aspects of instruction of interest – authenticity and teacher-student collaboration – on literacy practice change, either beginning new practices or increasing the frequency of already-engaging-in practices. This design dictated the data collection and subsequent analysis of that data. Thus, the data available to us is most reliable and valid for the purposes of the causal-correlational analysis.

However, the large amount of data reflecting the participants' own contextualizations of literacy practice change that came to us as a by-product of this data collection is still of interest. As just discussed, the analysis of this pool of data reaffirms and illustrates the literacy-as-social-practice theory which fits so well with the dominant paradigm of situated cognition and language learning. The fact that the students' failed to draw a connection between changes that occurred in their literacy practices after they began their classes and the types of activities and materials they

engaged with in those classes does not mean that the relationships detected in our first analysis do not exist.

Following, therefore, we offer a possible explanation for how these two findings – results of two very different types of analyses on two different, but overlapping, pools of data – might fit together within a singular lens. Recall that the original study was framed by the same literacy-as- social-practice theory as that which so nicely captures the results of the qualitative analysis. However, it is a fact that studies such as the causal-correlational one we have just completed are rarely done by researchers who assume this social-practice theory. Rather, social-practice research is mainly done outside of schools in the homes and communities where participants live their lives. In fact, it is a presupposition of the literacy-as-social/cultural-practice frame that the literacy taught and valued in schools is an autonomous literacy which is seen (incorrectly, according to this view) as decontextualized skill and residing solely in people's heads in a cognitive way rather than the result of and part of the social and cultural lives of people (Barton & Hamilton, 1998; Street, 1984). Therefore, according to this precept, research in literacy practice cannot be done in schools but must be done in communities.

Much social practice research looks at students' potential conflict with the decontextualized literacy of schools and suggests that claims for it's autonomy are false, given the social nature of all literacies. Studies such as Heath's (1983) look at what the students bring with them to school in for form of socially based literacy practices. We, through this study, are able to look at the reverse and see what students are able to take from school and actualize outside of school, in this case engagement with specific text types. We believe that this step is a necessary one to begin to explain lived outcomes of instruction.

Our careful statistical analysis of our data indicated a moderate and very real relationship between the offering of authentic literacy activities and texts in school and increases in types and/or frequencies of literacy practices, as we defined them re types of texts read and written, in people's lives outside of school. Authentic was defined as those texts and purposes for reading and writing them that exist in lives outside of school – as part of social activity in communities. Therefore, we found that where school and outside-of-school overlap as regards literacy there is change as defined as increase in literacy practice. We were, in fact, measuring the effect of instruction that did not view literacy as autonomous, decontextualized skill, rather as contextualized, situated practice.

The result of the synthesis of these two analyses provides us with a picture of instruction that can impact the lived literacy of adult students. The students, themselves, experience their literacy practices as they exist in life – situated and bound by social and cultural activity. Educators can see the instructional layer of this in the overlap between literacy instruction that reflects this situated nature of literacy practice and literacy practice as it mediates people's lives. We believe that this bringing together of two research lenses, with their quantitative and qualitative analytic methods, provides the beginning of a much needed bridge that will take us to an elaborated and more explanatory picture of literacy learning and literacy practice.

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